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ABSTRACT

Presented are data from the National Science Foundation's Survey of Scientific and Engineering Expenditures at Universities and Colleges, Fiscal Year 1977. Data summarize research and development (R&D) expenditures for 539 institutions, accounting for more than 99% of academic R&D funds. (Author/RE)

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EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES FISCAL YEAR 1977

Detailed Statistical Tables
Appendixes B and C

SURVEYS OF SCIENCE RESOURCES SERIES
NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

NSF 78-318

SE 028 853

NOTES

- This report contains data from the National Science Foundation's (NSF) Survey of Scientific and Engineering Expenditures at Universities and Colleges, Fiscal Year 1977. The financial data summarize the R&D efforts at 539 universities and colleges which account for more than 99 percent of all academic R&D funds. The survey universe includes universities and colleges granting graduate degrees in either the sciences or engineering and all other academic institutions with $50,000 or more in separately budgeted R&D expenditures. In addition, 21 university-administered federally funded research and development centers (FFRDC's) were surveyed to determine their level of R&D performance; responses from these centers are treated separately. The survey questionnaire was mailed December 2, 1977, and by the closeout date of May 10, 1978, 516 institutions, or 97 percent, had responded, including all of the leading 100 performers. Imputation and estimates accounted for less than 2 percent of R&D expenditure totals.
- R&D expenditure data presented refer to *separately budgeted research and development*, including all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. Research expenditures in the arts and humanities are excluded.
- The term "expenditures" differs from the Federal accounting term "obligations;" the latter term reflects the amount of funding by the reporting agency during a fiscal year regardless of when funds were actually spent by the recipients.
- In reporting the various sources of R&D support, many universities and colleges are unable to report accurately their full institutional contribution to R&D projects. Under the "source of funds" category, respondents are asked to include unreimbursed indirect costs incurred in association with R&D projects financed by outside organizations within the "institutional funds" item. Many institutions use the negotiated *indirect cost rate* to determine the unrecovered difference between reimbursed indirect costs and total overhead expenses. The negotiated indirect cost rate, however, may not represent the full indirect cost burden to universities and colleges, which can result in the underreporting of institutional R&D funds in some cases.
- NSF has changed its academic survey system to a biennial schedule in an effort to reduce the reporting burden of universities and colleges. In alternate years beginning in FY 1978, a short form will be used to collect key data from doctorate-granting institutions only. The standard long-form questionnaire will be used every other year to gather survey data from the full universe of respondents. During the full-scale survey cycle, the *Detailed Statistical Tables*, *Science Resources Studies Highlights*, and a final report will be published. In alternating or short-form survey years, only the *Highlights* or an abbreviated analytical report will be published.
- Additional questions regarding these survey findings should be addressed to James B. Hoehn, Universities and Nonprofit Institutions Studies Group, Division of Science Resources Studies, National Science Foundation, Washington, D.C. 20550 (202-634-4674).

APPENDIX B
Statistical Tables

Universities and Colleges (Part 1)

SEPARATELY BUDGETED
R&D EXPENDITURES

		Page
B-1.	By year and source of funds: fiscal years 1953-77	1
B-2.	By year and character of work: fiscal years 1953-77	1

SEPARATELY BUDGETED R&D EXPENDITURES
BY SOURCE OF FUNDS, CHARACTER OF WORK,
AND FIELD OF SCIENCE

B-3.	Summary for selected fiscal years 1964-77	2
B-4.	Summary and percent change in public and private institutions: fiscal years 1976 and 1977	3
B-5.	Summary for all doctorate-granting institutions for selected fiscal years 1964-77	4
B-6.	Summary and percent change in public and private doctorate-granting institutions: fiscal years 1976 and 1977	5

FEDERALLY FINANCED R&D EXPENDITURES
BY CHARACTER OF WORK AND FIELD
OF SCIENCE

B-7.	Summary for selected fiscal years 1964-77	6
B-8.	Summary and percent change in public and private institutions: fiscal years 1976 and 1977	7
B-9.	Summary and percent change in public and private doctorate-granting institutions: fiscal years 1976 and 1977	8

GEOGRAPHIC DISTRIBUTION OF SEPARATELY
BUDGETED R&D EXPENDITURES

B-10.	Total R&D for selected fiscal years 1964-77	9
B-11.	Federally financed R&D for selected fiscal years 1964-77	10
B-12.	By source of funds: fiscal year 1977	11
B-13.	By field of science: fiscal year 1977	12

PERCENT DISTRIBUTION OF R&D EXPENDITURES
GROUPED BY UNIVERSITIES AND COLLEGES WITH
LARGEST R&D PROGRAMS

B-14.	By source of funds: fiscal year 1977	13
B-15.	By field of science: fiscal year 1977	14

SEPARATELY BUDGETED CURRENT R&D EXPENDITURES IN DESCENDING ORDER OF AMOUNTS, BY INSTITUTIONS

B-16. Total and federally financed for all R&D performers: fiscal years 1974-77 15
B-17. By source of funds for largest R&D performers, grouped by highest degree granted: fiscal year 1977 26
B-18. By source of funds for 200 largest R&D performers: fiscal year 1977 30
B-19. By source of funds for 100 largest public R&D performers: fiscal year 1977 34
B-20. By source of funds for 100 largest private R&D performers: fiscal year 1977 36
B-21. By field of science for 200 largest R&D performers: fiscal year 1977 38
B-22. By field of science for 150 largest federally financed R&D performers: fiscal year 1977 42
-23. By field of science for 100 largest public R&D performers: fiscal year 1977 45
B-24. By field of science for 100 largest federally financed public R&D performers: fiscal year 1977 47
B-25. By field of science for 100 largest private R&D performers: fiscal year 1977 49
B-26. By field of science for 100 largest federally financed private R&D performers: fiscal yar 1977 51
B-27. For 100 largest R&D performers in engineering: fiscal years 1974-77 53
B-28. For 100 largest R&D performers in the physical sciences: fiscal years 1974-77 55
B-29. For 100 largest federally financed R&D performers in the physical sciences: fiscal years 1974-77 57
B-30. For 100 largest R&D performers in chemistry: fiscal years 1974-77 59
B-31. For 100 largest R&D performers in physics: fiscal years 1974-77 61
B-32. For 100 largest R&D performers in the environmental sciences: fiscal years 1974-77 63
B-33. For 100 largest R&D performers in the mathematical and computer sciences: fiscal years 1974-77 65
B-34. For 100 largest R&D performers in mathematics: fiscal years 1974-77 67
B-35. For 100 largest R&D performers in the computer sciences: fiscal years 1974-77 69
B-36. For 100 largest R&D performers in the life sciences: fiscal years 1974-77 71
B-37. For 100 largest federally financed R&D performers in the life sciences: fiscal years 1974-77 73
B-38. For 100 largest R&D performers in biological sciences: fiscal years 1974-77 75
B-39. For 100 largest R&D performers in the medical sciences: fiscal years 1974-77 77
B-40. For 100 largest R&D performers in psychology: fiscal years 1974-77 79
B-41. For 100 largest R&D performers in the social sciences: fiscal years 1974-77 81
B-42. For the 100 largest federally financed R&D performers in the social sciences: fiscal years 1974-77 83

CAPITAL EXPENDITURES FOR SCIENTIFIC AND ENGINEERING FACILITIES AND EQUIPMENT FOR RESEARCH, DEVELOPMENT, AND INSTRUCTION

B-43. Total and federally financed by field of science for selected fiscal years 1964-77 85
B-44. Summary and percent change in public and private institutions: fiscal years 1976 and 1977 ... 86
B-45. Summary and percent change in public and private doctorate-granting institutions: fiscal years 1976 and 1977 87
B-46. Geographic distribution by field of science: fiscal year 1977 88
B-47. Institutional ranking by field of science in descending order of amounts for 100 largest institutions: fiscal year 1977 89
B-48. Institutional ranking by field of science in descending order of amounts for 100 largest federally financed institutions: fiscal year 1977 91

University-Administered Federally Funded Research and Development Centers (Part II)

Listing of Federally Funded Research and Development Centers 93

B-49. R&D expenditures in university-administered federally funded research and development centers, by character of work, and field of science, for selected fiscal years 1964-77 94
B-50. Federally financed R&D expenditures in university-administered federally funded research and development centers, by character of work and field of science, for selected fiscal years 1964-77 95
B-51. R&D expenditures in university-administered federally funded research and development centers, by character of work: fiscal years 1953-77 96
B-52. Selected financial characteristics of scientific activities in university-administered federally funded research and development centers: fiscal years 1975-77 96
B-53. R&D expenditures in university-administered federally funded research and development centers, in descending order of amounts, by field of science: fiscal year 1977 97
B-54. R&D expenditures in university-administered federally funded research and development centers for selected fiscal years 1974-77 97

TABLE B-1. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY YEAR AND SOURCE OF FUNDS: FISCAL YEARS 1953-77

(DOLLARS IN MILLIONS)

YEAR	TOTAL R&D PERFORMANCE	SOURCE OF FUNDS				
		FEDERAL GOVERNMENT	STATE & LOCAL GOVERNMENT	INDUSTRY	INSTITUTIONAL FUNDS	OTHER NONPROFIT INSTITUTIONS
1953	255	138	37	19	35	26
1954	290	160	42	22	38	28
1955	312	169	47	25	41	30
1956	372	213	53	29	43	34
1957	410	229	60	34	49	38
1958	456	254	68	39	53	42
1959	526	306	76	39	58	47
1960	646	405	85	40	64	52
1961	763	500	95	40	70	58
1962	904	613	106	40	79	66
1963	1,081	760	118	41	89	73
1964	1,275	917	132	40	103	83
1965	1,474	1,073	143	41	124	93
1966	1,715	1,261	156	42	148	108
1967	1,921	1,409	164	48	181	119
1968	2,149	1,572	172	55	218	131
1969	2,225	1,600	197	60	223	145
1970	2,335	1,647	219	62	243	166
1971	2,500	1,724	255	70	274	177
1972	2,677	1,839	270	75	306	187
1973	2,940	2,038	295	85	319	201
1974	3,023	2,032	327	96	350	218
1975	3,409	2,288	352	113	398	258
1976	3,731	2,501	386	124	435	285
1977	4,064	2,717	375	139	518	315

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-2. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY YEAR AND CHARACTER OF WORK: FISCAL YEARS 1953-77

(DOLLARS IN MILLIONS)

YEAR	TOTAL	BASIC RESEARCH		APPLIED RESEARCH		DEVELOPMENT	
		AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL
1953	255	110	43.1%	130	51.1%	15	5.9%
1954	290	136	46.9	137	47.2	17	5.9
1955	312	159	51.0	136	43.6	17	5.4
1956	372	200	53.8	147	39.5	25	6.7
1957	410	240	58.8	145	35.4	25	6.1
1958	456	281	61.6	148	32.5	27	5.9
1959	526	343	65.2	155	29.5	28	5.3
1960	646	433	67.0	179	27.7	34	5.3
1961	763	536	70.2	192	25.2	35	4.6
1962	904	659	72.9	205	22.7	40	4.4
1963	1,081	814	75.3	227	21.0	40	3.7
1964	1,275	1,003	78.7	232	18.2	40	3.1
1965	1,474	1,138	77.2	279	18.9	57	3.9
1966	1,715	1,303	76.0	328	19.1	84	4.9
1967	1,921	1,457	75.8	374	19.5	90	4.7
1968	2,149	1,649	76.7	404	18.8	96	4.5
1969	2,225	1,711	76.9	407	18.3	107	4.8
1970	2,335	1,796	76.9	427	18.3	112	4.8
1971	2,500	1,914	76.6	474	19.0	112	4.5
1972	2,677	2,023	75.6	544	20.3	110	4.1
1973	2,940	2,054	69.9	717	24.4	168	5.7
1974	3,023	2,153	71.2	737	24.4	133	4.4
1975	3,409	2,408	70.6	852	25.0	149	4.4
1976	3,731	2,548	68.3	1,015	27.2	168	4.5
1977	4,064	2,788	68.6	1,067	26.3	209	5.1

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-3. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE, CHARACTER OF WORK, AND FIELD: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
TOTAL R&D EXPENDITURES	1,275,436	1,714,684	2,148,708	2,334,859	2,676,511	2,939,579	3,023,425	3,409,194	3,730,688	4,064,220
SOURCE OF FUNDS:										
FEDERAL GOVERNMENT	917,322	1,261,034	1,572,064	1,647,500	1,838,933	2,038,206	2,032,143	2,287,779	2,501,139	2,716,767
STATE GOVERNMENT	122,496	144,258	161,808	206,907	257,068	280,880	312,726	336,937	370,549	362,255
LOCAL GOVERNMENT	9,964	11,718	10,387	11,870	12,850	14,510	14,038	15,428	15,219	13,400
FOUNDATIONS & VOLUNTARY HEALTH AGENCIES	61,411	76,511	95,264	110,391	128,032	131,168	142,121	167,736	182,709	191,737
INDUSTRY	40,363	42,242	55,253	60,538	75,270	85,240	96,033	113,256	123,519	139,149
INSTITUTIONAL FUNDS	102,581	147,286	217,810	243,051	305,520	319,247	350,575	397,746	435,272	517,681
ALL OTHER OUTSIDE SOURCES	21,299	31,635	36,122	54,602	58,838	70,328	75,789	90,312	102,281	123,231
CHARACTER OF WORK:										
BASIC RESEARCH	1,002,980	1,303,114	1,649,616	1,795,864	2,022,185	2,254,044	2,152,668	2,408,057	2,547,494	2,787,546
APPLIED RESEARCH	231,852	328,276	403,643	426,714	544,178	717,041	737,360	852,048	1,014,893	1,067,421
DEVELOPMENT	40,604	83,294	95,449	112,281	110,148	168,494	133,397	149,089	168,301	209,253
FIELD OF SCIENCE:										
ENGINEERING	161,572	259,176	309,137	318,836	347,341	383,556	347,970	382,176	432,961	498,606
PHYSICAL SCIENCES	216,989	286,707	319,739	307,310	329,900	330,431	333,851	350,745	379,123	426,689
ASTRONOMY	15,571	22,676	24,103	18,597	21,974	24,114	24,427	26,611	26,271	32,336
CHEMISTRY	70,022	87,955	104,695	102,002	110,015	114,133	116,026	120,976	140,041	163,522
PHYSICS	119,578	159,135	172,660	161,921	161,853	167,801	169,359	173,651	182,903	200,908
OTHER, NEC	11,818	16,941	18,281	24,790	36,058	24,383	24,039	29,507	29,908	29,923
ENVIRONMENTAL SCIENCES	54,814	68,019	120,463	125,315	192,331	209,645	235,186	255,301	286,532	317,035
MATHEMATICAL SCIENCES	32,666	42,489	57,621	72,413	70,536	74,692	76,832	85,466	86,805	106,329
MATHEMATICS	NA	NA	NA	NA	NA	36,954	37,642	39,861	42,367	51,183
COMPUTER SCIENCES	NA	NA	NA	NA	NA	37,738	39,190	45,605	44,438	55,146
LIFE SCIENCES	681,594	872,336	1,037,031	1,194,249	1,352,601	1,529,285	1,631,574	1,900,486	2,098,913	2,256,782
BIOLOGICAL SCIENCES	315,471	422,483	490,607	547,193	451,239	557,493	511,311	631,363	710,444	769,097
AGRICULTURAL SCIENCES	1/	1/	1/	1/	2/231,057	2/275,552	346,209	382,120	411,265	464,428
MEDICAL SCIENCES	320,086	389,618	477,346	549,121	604,987	645,687	716,080	811,545	896,262	948,273
OTHER, NEC	46,037	60,235	69,078	97,935	65,318	50,553	57,974	75,458	80,942	74,984
PSYCHOLOGY	31,904	40,143	59,286	59,250	70,400	73,856	74,392	79,942	77,166	83,014
SOCIAL SCIENCES	81,539	109,279	167,986	168,669	206,344	232,180	241,141	256,633	266,855	269,481
ECONOMICS	24,068	31,695	35,017	38,616	46,586	47,806	47,961	56,245	65,592	70,206
POLITICAL SCIENCE	6,876	8,979	20,742	19,273	21,771	25,523	27,123	29,500	28,389	32,496
SOCIOLOGY	14,664	20,000	38,587	44,383	59,475	61,521	63,575	68,798	66,079	61,258
OTHER, NEC	35,931	48,605	73,640	66,397	78,512	97,330	102,482	102,090	106,795	105,521
OTHER SCIENCES, NEC	14,358	36,535	77,445	88,817	107,058	105,934	82,479	98,445	102,333	106,284

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN BIOLOGICAL SCIENCES.
2/ ESTIMATED, BASED ON DATA COLLECTED IN 1974.
NA - DATA NOT AVAILABLE.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-4. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE, CHARACTER OF WORK, FIELD, AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
TOTAL R&D EXPENDITURES	3,730,688	4,064,220	8.9%	2,412,412	2,640,667	9.5%	1,318,276	1,423,553	8.0%
SOURCE OF FUNDS:									
FEDERAL GOVERNMENT	2,501,139	2,716,767	8.6	1,478,736	1,613,355	9.1	1,022,403	1,103,412	7.9
STATE GOVERNMENT	370,549	362,255	-2.2	343,612	332,430	-3.3	26,937	29,825	10.7
LOCAL GOVERNMENT	15,219	13,400	-12.0	10,425	9,133	-12.4	4,794	4,267	-11.0
FOUNDATIONS & VOLUNTARY HEALTH AGENCIES	182,709	191,737	4.9	88,772	97,875	10.3	93,937	93,862	-.1
INDUSTRY	123,519	139,149	12.7	73,901	81,909	10.8	49,618	57,240	15.4
INSTITUTIONAL FUNDS	435,272	517,681	18.9	353,279	432,269	22.4	81,993	85,412	4.2
ALL OTHER OUTSIDE SOURCES	102,281	123,231	20.5	63,687	73,696	15.7	38,594	49,535	28.3
CHARACTER OF WORK:									
BASIC RESEARCH	2,547,494	2,787,546	9.4	1,491,412	1,633,843	9.6	1,056,082	1,153,703	9.2
APPLIED RESEARCH	1,014,893	1,067,421	5.2	783,695	830,726	6.0	231,198	236,695	2.4
DEVELOPMENT	168,301	209,253	24.3	137,305	176,098	28.3	30,996	33,155	7.0
FIELD OF SCIENCE:									
ENGINEERING	432,961	498,606	15.2	272,264	307,107	12.8	160,697	191,499	19.2
PHYSICAL SCIENCES	379,123	426,689	12.5	219,854	250,587	14.0	159,269	176,102	10.6
ASTRONOMY	26,271	32,336	23.1	15,571	21,468	37.9	10,700	10,868	1.6
CHEMISTRY	140,041	163,522	16.8	87,495	102,923	17.6	52,546	60,599	15.3
PHYSICS	182,903	200,908	9.8	93,544	104,019	11.2	89,359	96,889	8.4
OTHER, NEC	29,908	29,923	.1	23,244	22,177	-4.6	6,664	7,746	16.2
ENVIRONMENTAL SCIENCES	286,532	317,035	10.6	214,034	234,928	9.8	72,498	82,107	13.3
MATHEMATICAL SCIENCES	86,805	106,329	22.5	48,163	63,345	31.5	38,642	42,984	11.2
MATHEMATICS	42,367	51,183	20.8	24,838	31,765	27.9	17,529	19,418	10.8
COMPUTER SCIENCES	44,438	55,146	24.1	23,325	31,580	35.4	21,113	23,566	11.6
LIFE SCIENCES	2,098,913	2,256,782	7.5	1,346,999	1,461,505	8.5	751,914	795,277	5.8
BIOLOGICAL SCIENCES	710,444	769,097	8.3	414,079	452,770	9.3	296,365	316,327	6.7
AGRICULTURAL SCIENCES	411,265	464,428	12.9	391,020	443,123	13.3	20,245	21,305	5.2
MEDICAL SCIENCES	896,262	948,273	5.8	501,014	521,203	4.0	395,248	427,070	8.1
OTHER, NEC	80,942	74,584	-7.4	40,886	44,409	8.6	40,056	30,575	-23.7
PSYCHOLOGY	77,166	83,014	7.6	51,570	54,600	5.9	25,596	28,414	11.0
SOCIAL SCIENCES	266,855	269,481	1.0	189,227	190,318	.6	77,628	79,163	2.0
ECONOMICS	65,592	70,206	7.0	49,386	53,576	8.5	16,206	16,630	2.6
POLITICAL SCIENCE	28,389	32,496	14.5	20,481	22,291	8.8	7,908	10,205	29.0
SOCIOLOGY	66,079	61,258	-7.3	47,554	44,439	-6.6	18,525	16,819	-9.2
OTHER, NEC	106,795	105,521	-1.2	71,806	70,012	-2.5	34,989	35,509	1.5
OTHER SCIENCES, NEC	102,333	106,284	3.9	70,301	78,277	11.3	32,032	28,007	-12.6

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-5. R&D EXPENDITURES AT DOCTORATE-GRANTING UNIVERSITIES AND COLLEGES, BY SOURCE, CHARACTER OF WORK, AND FIELD: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
TOTAL R&D EXPENDITURES	1,249,610	1,672,801	2,092,214	2,286,182	2,614,642	2,864,781	2,949,544	3,334,808	3,657,437	3,987,110
SOURCE OF FUNDS:										
FEDERAL GOVERNMENT	898,747	1,230,847	1,532,312	1,615,276	1,798,686	1,991,045	1,985,257	2,236,862	2,453,753	2,668,865
STATE GOVERNMENT	120,016	141,373	158,572	202,769	249,541	269,374	301,163	331,109	363,968	354,700
LOCAL GOVERNMENT	9,762	11,514	10,047	11,428	11,821	13,725	13,242	14,819	14,498	12,734
FOUNDATIONS & VOLUNTARY HEALTH AGENCIES	60,017	74,531	91,036	106,742	124,816	127,442	138,659	163,325	177,658	186,896
INDUSTRY	39,546	40,249	53,116	58,479	73,863	83,055	93,861	110,402	120,482	135,549
INSTITUTIONAL FUNDS	100,504	143,525	211,854	237,588	298,637	311,553	342,381	389,682	426,293	506,865
ALL OTHER OUTSIDE SOURCES	21,018	30,762	35,277	53,900	57,278	68,587	73,981	88,609	100,785	121,501
CHARACTER OF WORK:										
BASIC RESEARCH	982,671	1,277,690	1,617,277	1,768,569	1,987,857	2,022,594	2,114,412	2,364,926	2,505,382	2,748,069
APPLIED RESEARCH	227,157	321,872	388,854	413,862	523,873	683,271	710,974	830,113	994,611	1,042,559
DEVELOPMENT	39,782	73,239	86,083	103,751	102,912	158,916	124,158	139,769	157,444	196,482
FIELD OF SCIENCE:										
ENGINEERING	157,850	249,676	300,526	311,487	341,121	378,633	345,034	378,371	426,408	491,069
PHYSICAL SCIENCES	213,677	283,713	307,226	297,767	320,300	317,920	322,553	338,911	366,185	413,904
ASTRONOMY	15,412	22,397	23,803	18,356	21,756	23,853	24,185	26,398	26,071	32,092
CHEMISTRY	71,947	84,698	97,609	97,303	105,656	108,506	110,836	115,204	133,495	156,643
PHYSICS	112,530	159,833	168,343	158,182	157,414	162,977	165,432	169,451	178,849	197,119
OTHER, NEC	13,770	16,785	17,471	23,926	35,474	22,584	22,100	27,858	27,770	28,050
ENVIRONMENTAL SCIENCES	49,369	62,755	114,970	121,634	187,242	203,276	228,103	247,007	277,489	307,010
MATHEMATICAL SCIENCES	31,260	41,750	55,608	70,389	68,710	72,567	74,988	82,476	84,469	102,500
MATHEMATICS	NA	NA	NA	NA	NA	35,457	36,621	38,064	41,205	49,921
COMPUTER SCIENCES	NA	NA	NA	NA	NA	37,110	38,367	44,412	43,264	52,579
LIFE SCIENCES	679,888	866,960	1,021,373	1,181,772	1,332,063	1,506,279	1,605,798	1,881,131	2,078,910	2,234,597
BIOLOGICAL SCIENCES	330,438	418,624	477,614	537,253	443,104	547,824	501,493	620,914	695,920	736,639
AGRICULTURAL SCIENCES	1/	1/	1/	1/	2/229,340	2/273,414	334,535	375,539	404,756	457,569
MEDICAL SCIENCES	295,486	385,571	475,612	547,083	595,163	635,897	713,870	809,885	894,604	965,963
OTHER, NEC	53,964	62,765	68,147	97,436	64,456	49,144	55,900	74,793	79,630	74,426
PSYCHOLOGY	29,007	35,174	53,881	56,280	67,115	70,179	70,298	74,000	73,895	80,083
SOCIAL SCIENCES	74,523	98,901	159,607	161,627	194,974	214,183	223,605	239,262	252,031	256,135
ECONOMICS	16,116	21,320	33,968	37,709	45,461	45,950	46,417	54,325	64,498	68,907
POLITICAL SCIENCE	9,262	12,280	20,042	18,362	20,944	24,330	26,421	28,227	27,120	31,326
SOCIOLOGY	17,070	22,696	36,889	43,157	53,253	52,520	55,711	62,053	62,463	58,670
OTHER, NEC	31,045	42,605	68,708	62,399	75,316	91,383	95,056	94,657	97,950	97,232
OTHER SCIENCES, NEC	14,036	33,872	79,023	85,226	103,117	101,744	79,165	93,650	98,050	101,812

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN BIOLOGICAL SCIENCES.
2/ ESTIMATED, BASED ON DATA COLLECTED IN 1974.
NA - DATA NOT AVAILABLE.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-6. R&D EXPENDITURES AT DOCTORATE-GRANTING UNIVERSITIES AND COLLEGES, BY SOURCE, CHARACTER OF WORK, FIELD, AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
TOTAL R&D EXPENDITURES	3,657,437	3,987,110	9.0%	2,359,088	2,581,796	9.4%	1,298,349	1,405,314	8.2%
SOURCE OF FUNDS:									
FEDERAL GOVERNMENT	2,453,753	2,668,865	8.8	1,443,232	1,575,857	9.2	1,010,521	1,093,008	8.2
STATE GOVERNMENT	363,968	354,700	-2.5	337,491	325,129	-3.7	26,477	29,571	11.7
LOCAL GOVERNMENT	14,498	12,734	-12.2	9,759	8,536	-12.5	4,739	4,198	-11.4
FOUNDATIONS & VOLUNTARY HEALTH AGENCIES	177,658	186,896	5.2	86,834	95,417	9.9	90,824	91,479	.7
INDUSTRY	120,482	135,549	12.5	72,107	79,738	10.6	48,375	55,811	15.4
INSTITUTIONAL FUNDS	426,293	506,865	18.9	347,160	424,889	22.4	79,133	81,976	3.6
ALL OTHER OUTSIDE SOURCES	100,785	121,501	20.6	62,505	72,230	15.6	38,280	49,271	28.7
CHARACTER OF WORK:									
BASIC RESEARCH	2,505,382	2,748,069	9.7	1,460,566	1,604,113	9.8	1,044,816	1,143,956	9.5
APPLIED RESEARCH	994,611	1,042,559	4.8	767,953	809,749	5.4	226,658	232,810	2.7
DEVELOPMENT	157,444	196,482	24.8	130,569	167,934	28.6	26,875	28,548	6.2
FIELD OF SCIENCE:									
ENGINEERING	426,408	491,069	15.2	267,120	301,073	12.7	159,288	189,996	19.3
PHYSICAL SCIENCES	366,185	413,904	13.0	212,232	242,847	14.4	153,953	171,057	11.1
ASTRONOMY	26,071	32,092	23.1	15,513	21,317	37.4	10,558	10,775	2.1
CHEMISTRY	133,495	156,643	17.3	82,885	97,834	18.0	50,610	58,809	16.2
PHYSICS	178,849	197,119	10.2	91,203	101,812	11.6	87,646	95,307	8.7
OTHER, NEC	27,770	28,050	1.0	22,631	21,884	-3.3	5,139	6,166	20.0
ENVIRONMENTAL SCIENCES	277,489	307,010	10.6	208,213	227,693	9.4	69,276	79,317	14.5
MATHEMATICAL SCIENCES	84,469	102,500	21.3	46,452	60,971	31.3	38,017	41,529	9.2
MATHEMATICS	41,205	49,921	21.2	23,893	30,683	28.4	17,312	19,238	11.1
COMPUTER SCIENCES	43,264	52,579	21.5	22,559	30,288	34.3	20,705	22,291	7.7
LIFE SCIENCES	2,078,910	2,234,567	7.5	1,330,430	1,442,965	8.5	748,480	791,632	5.8
BIOLOGICAL SCIENCES	699,920	756,639	8.1	406,628	442,966	8.9	293,292	313,673	6.9
AGRICULTURAL SCIENCES	404,756	457,569	13.0	384,556	437,002	13.6	20,200	20,567	1.8
MEDICAL SCIENCES	894,604	945,963	5.7	499,423	519,058	3.9	395,181	426,905	8.0
OTHER, NEC	79,630	74,426	-6.5	39,823	43,939	10.3	39,807	30,487	-23.4
PSYCHOLOGY	73,895	80,083	8.4	49,137	52,337	6.5	24,758	27,746	12.1
SOCIAL SCIENCES	252,031	256,135	1.6	178,728	179,531	.4	73,303	76,604	4.5
ECONOMICS	64,498	68,907	6.8	48,619	52,501	8.0	15,879	16,406	3.3
POLITICAL SCIENCE	27,120	31,326	15.5	19,414	21,278	9.6	7,706	10,048	30.4
SOCIOLOGY	62,463	58,670	-6.1	44,803	42,212	-5.8	17,660	16,458	-6.8
OTHER, NEC	97,950	97,232	-.7	65,892	63,540	-3.6	32,058	33,692	5.1
OTHER SCIENCES, NEC	98,050	101,812	3.8	66,776	74,379	11.4	31,274	27,433	-12.3

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-7. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY CHARACTER OF WORK AND FIELD: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
TOTAL	917,322	1,261,034	1,572,064	1,647,500	1,838,933	2,038,206	2,032,143	2,287,779	2,501,139	2,716,767
CHARACTER OF WORK:										
BASIC RESEARCH	766,225	1,008,805	1,250,782	1,296,120	1,420,198	1,455,441	1,521,841	1,693,644	1,827,085	1,992,135
APPLIED RESEARCH	128,405	193,515	253,577	267,651	338,425	462,437	439,198	516,062	580,638	604,783
DEVELOPMENT	22,692	58,714	67,705	83,729	80,310	120,328	71,104	78,073	93,416	119,849
FIELD OF SCIENCE:										
ENGINEERING	126,962	209,248	246,191	245,888	259,058	287,094	240,063	260,154	290,689	336,211
PHYSICAL SCIENCES	187,457	247,603	273,048	257,822	267,392	270,383	270,190	285,002	303,868	340,724
ASTRONOMY	13,651	20,123	21,079	15,516	16,854	17,697	17,101	19,524	18,251	23,133
CHEMISTRY	55,410	68,955	82,668	78,942	84,582	86,861	88,692	92,706	107,216	124,323
PHYSICS	109,938	146,058	156,241	144,306	139,629	146,224	146,515	149,879	155,348	171,118
OTHER, NEC	8,458	12,467	13,060	19,058	26,327	19,601	17,882	22,893	23,053	22,150
ENVIRONMENTAL SCIENCES	44,891	54,325	88,691	88,127	142,110	157,627	168,434	180,676	210,286	236,830
MATHEMATICAL SCIENCES	28,128	34,394	45,610	54,338	53,207	55,487	58,103	65,100	65,205	77,378
MATHEMATICS	NA	NA	NA	NA	NA	28,557	29,405	31,221	32,334	39,900
COMPUTER SCIENCES	NA	NA	NA	NA	NA	26,930	28,698	33,879	32,871	37,478
LIFE SCIENCES	455,014	595,301	725,017	814,417	884,212	1,014,279	1,052,663	1,237,655	1,373,928	1,466,629
BIOLOGICAL SCIENCES	176,933	252,371	306,471	334,851	319,625	358,924	366,021	457,471	520,216	572,338
AGRICULTURAL SCIENCES	1/	1/	1/	1/	2/ 80,228	2/ 93,854	100,952	112,175	121,654	134,236
MEDICAL SCIENCES	256,874	312,801	381,9[illegible]	431,656	448,805	485,962	543,663	613,798	673,305	706,147
OTHER, NEC	21,207	30,129	36,610	47,910	35,554	35,539	42,027	54,211	58,753	53,908
PSYCHOLOGY	27,572	34,393	48,547	47,263	54,865	58,649	58,554	61,193	58,317	62,313
SOCIAL SCIENCES	42,147	61,914	100,846	94,655	113,935	132,470	136,731	141,452	139,613	139,285
ECONOMICS	10,565	15,520	17,537	17,688	20,940	22,776	22,292	27,081	29,081	31,021
POLITICAL SCIENCE	3,127	4,593	10,444	7,920	8,592	10,362	11,902	12,287	11,984	14,929
SOCIOLOGY	8,739	12,837	26,095	26,220	35,694	40,486	41,295	45,000	40,355	37,289
OTHER, NEC	19,716	28,964	46,770	42,827	48,709	58,846	61,242	57,084	58,193	56,046
OTHER SCIENCES, NEC	5,151	23,856	44,114	44,990	64,154	62,217	47,405	56,547	59,233	57,397

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN BIOLOGICAL SCIENCES.
2/ ESTIMATED, BASED ON DATA COLLECTED IN 1974.
NA - DATA NOT AVAILABLE.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-8. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY CHARACTER OF WORK, FIELD, AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
TOTAL	2,501,139	2,716,767	8.6%	1,478,736	1,613,355	9.1%	1,022,403	1,103,412	7.9%
CHARACTER OF WORK:									
BASIC RESEARCH	1,827,085	1,992,135	9.0	989,392	1,079,181	9.1	837,693	912,954	9.0
APPLIED RESEARCH	580,638	604,783	4.2	418,485	437,273	4.5	162,153	167,510	3.3
DEVELOPMENT	93,416	119,849	28.3	70,859	96,901	36.8	22,557	22,948	1.7
FIELD OF SCIENCE:									
ENGINEERING	290,689	336,211	15.7	170,371	193,762	13.7	120,318	142,449	18.4
PHYSICAL SCIENCES	303,868	340,724	12.1	168,366	190,623	13.2	135,502	150,101	10.8
ASTRONOMY	18,251	23,133	26.7	10,028	15,046	50.0	8,223	8,087	-1.7
CHEMISTRY	107,216	124,323	16.0	65,C85	76,291	17.2	42,131	48,032	14.0
PHYSICS	155,348	171,118	10.2	74,883	82,435	10.1	80,465	88,683	10.2
OTHER, NEC	23,053	22,150	-3.9	18,370	16,851	-8.3	4,683	5,299	13.2
ENVIRONMENTAL SCIENCES	210,286	236,830	12.6	148,021	166,025	12.2	62,265	70,805	13.7
MATHEMATICAL SCIENCES	65,205	77,378	18.7	30,778	40,174	30.5	34,427	37,204	8.1
MATHEMATICS	32,334	39,900	23.4	17,265	22,699	31.5	15,069	17,201	14.1
COMPUTER SCIENCES	32,871	37,478	14.0	13,513	17,475	29.3	19,358	20,003	3.3
LIFE SCIENCES	1,373,928	1,466,629	6.7	794,337	852,068	7.3	579,591	614,561	6.0
BIOLOGICAL SCIENCES	520,216	572,338	10.0	280,647	316,149	12.7	239,569	256,189	6.9
AGRICULTURAL SCIENCES	121,654	134,236	10.3	115,493	126,649	9.7	6,161	7,587	23.1
MEDICAL SCIENCES	673,305	706,147	4.9	370,771	379,171	2.3	302,534	326,976	8.1
OTHER, NEC	58,753	53,908	-8.2	27,426	30,099	9.7	31,327	23,809	-24.0
PSYCHOLOGY	58,317	62,313	6.9	37,963	38,936	2.6	20,354	23,377	14.9
SOCIAL SCIENCES	139,613	139,285	-.2	91,663	91,773	.1	47,950	47,512	-.9
ECONOMICS	29,081	31,021	6.7	19,931	22,213	11.4	9,150	8,808	-3.7
POLITICAL SCIENCE	11,984	14,529	24.6	8,343	9,918	18.9	3,641	5,011	37.6
SOCIOLOGY	40,355	37,289	-7.6	26,261	24,328	-7.4	14,094	12,961	-8.0
OTHER, NEC	58,193	56,046	-3.7	37,128	35,314	-4.9	21,065	20,732	-1.6
OTHER SCIENCES, NEC	59,233	57,397	-3.1	37,237	39,994	7.4	21,996	17,403	-20.9

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-9. FEDERALLY FINANCED R&D EXPENDITURES AT DOCTORATE-GRANTING UNIVERSITIES AND COLLEGES, BY CHARACTER OF WORK, FIELD, AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
TOTAL	2,453,753	2,668,865	8.8%	1,443,232	1,575,857	9.2%	1,010,521	1,093,008	8.2%
CHARACTER OF WORK:									
BASIC RESEARCH	1,799,594	1,967,243	9.3	968,301	1,060,085	9.5	831,293	907,158	9.1
APPLIED RESEARCH	564,804	588,131	3.8	407,706	423,123	3.8	159,098	165,008	3.7
DEVELOPMENT	87,355	113,491	29.9	67,225	92,649	37.8	20,130	20,842	3.5
FIELD OF SCIENCE:									
ENGINEERING	286,779	331,769	15.7	167,001	189,835	13.7	119,778	141,934	18.5
PHYSICAL SCIENCES	295,281	332,521	12.6	162,670	185,079	13.8	132,611	147,442	11.2
ASTRONOMY	18,108	22,931	26.6	10,001	14,917	49.2	8,107	8,014	-1.1
CHEMISTRY	102,474	119,741	16.9	61,534	72,660	18.1	40,940	47,081	15.0
PHYSICS	152,322	168,196	10.4	73,072	80,849	10.6	79,250	87,347	10.2
OTHER, NEC	22,377	21,653	-3.2	18,063	16,653	-7.8	4,314	5,000	15.9
ENVIRONMENTAL SCIENCES	204,426	230,034	12.5	144,620	161,418	11.6	59,806	68,616	14.7
MATHEMATICAL SCIENCES	64,035	75,607	18.1	29,868	38,811	29.9	34,167	36,796	7.7
MATHEMATICS	31,786	39,234	23.4	16,792	22,136	31.8	14,994	17,098	14.0
COMPUTER SCIENCES	32,249	36,373	12.8	13,076	16,675	27.5	19,173	19,698	2.7
LIFE SCIENCES	1,359,136	1,450,442	6.7	782,036	838,717	7.2	577,100	611,725	6.0
BIOLOGICAL SCIENCES	512,766	563,233	9.8	275,445	308,994	12.2	237,321	254,239	7.1
AGRICULTURAL SCIENCES	116,529	129,355	11.0	110,371	122,480	11.0	6,158	6,875	11.6
MEDICAL SCIENCES	671,968	704,232	4.8	369,489	377,402	2.1	302,479	326,830	8.1
OTHER, NEC	57,873	53,622	-7.3	26,731	29,841	11.6	31,142	23,781	-23.6
PSYCHOLOGY	55,794	60,169	7.8	36,095	37,314	3.4	19,699	22,855	16.0
SOCIAL SCIENCES	132,021	133,929	1.4	86,432	87,504	1.2	45,589	46,425	1.8
ECONOMICS	28,509	30,296	6.3	19,490	21,567	10.7	9,019	8,729	-3.2
POLITICAL SCIENCE	11,549	14,413	24.8	8,005	9,416	17.6	3,544	4,997	41.0
SOCIOLOGY	38,166	36,020	-5.6	24,333	23,281	-4.3	13,833	12,739	-7.9
OTHER, NEC	53,797	53,200	-1.1	34,604	33,240	-3.9	19,193	19,960	4.0
OTHER SCIENCES, NEC	56,281	54,394	-3.4	34,510	37,179	7.7	21,771	17,215	-20.9

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-10. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY STATE: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
UNITED STATES TOTAL	1,275,436	1,714,684	2,148,708	2,334,859	2,676,511	2,935,579	3,023,425	3,409,194	3,730,688	4,064,220
NEW ENGLAND	149,089	207,635	253,386	285,058	326,824	334,419	293,229	330,513	361,363	403,153
CONNECTICUT	26,984	30,582	37,565	51,247	54,010	53,586	54,482	62,673	71,595	79,348
MAINE	2,745	2,771	2,886	3,371	5,985	6,688	7,115	8,759	9,632	9,937
MASSACHUSETTS	102,390	152,133	187,553	204,010	235,054	244,230	202,921	222,699	239,840	265,490
NEW HAMPSHIRE	5,143	6,769	6,626	9,004	7,659	8,774	7,273	10,063	11,963	13,705
RHODE ISLAND	8,930	12,268	14,751	12,424	17,647	13,869	13,565	15,730	16,166	21,543
VERMONT	2,897	3,112	4,005	5,002	6,469	7,272	7,873	10,589	12,167	13,130
MIDDLE ATLANTIC	257,065	343,243	438,559	448,778	485,200	530,807	549,495	608,774	650,245	696,880
NEW JERSEY	36,557	41,587	47,487	44,538	46,475	49,201	54,453	55,805	54,321	59,040
NEW YORK	149,519	208,011	265,598	274,110	309,110	348,891	344,506	389,842	408,781	435,799
PENNSYLVANIA	70,989	93,645	125,474	130,130	129,615	132,715	150,536	163,127	187,143	202,041
EAST NORTH CENTRAL	230,735	304,710	366,484	384,784	428,537	475,258	489,617	546,205	591,295	631,773
ILLINOIS	77,468	92,051	109,934	103,927	123,525	133,321	142,145	150,071	162,512	174,328
INDIANA	26,500	38,104	42,654	45,868	51,160	54,881	57,676	63,947	68,516	69,570
MICHIGAN	52,209	70,426	77,699	86,531	97,837	112,375	108,047	127,939	137,823	146,973
OHIO	39,294	51,554	68,092	71,965	72,734	77,156	82,153	93,963	108,391	121,230
WISCONSIN	35,264	52,575	68,105	76,493	83,281	97,525	99,596	110,285	114,053	119,672
WEST NORTH CENTRAL	96,542	129,703	163,946	193,235	219,686	219,641	236,760	263,966	292,494	321,789
IOWA	17,780	19,735	24,881	28,219	30,690	36,361	40,026	47,069	52,374	60,830
KANSAS	13,923	17,849	25,412	28,062	28,043	31,310	33,231	30,687	34,334	36,939
MINNESOTA	23,368	29,116	32,879	40,393	49,768	54,577	61,185	70,256	75,590	83,088
MISSOURI	27,264	42,218	53,600	64,091	78,493	65,555	67,391	74,226	81,309	88,176
NEBRASKA	6,950	8,240	12,969	18,253	19,830	18,316	20,687	24,882	28,305	30,820
NORTH DAKOTA	3,615	3,762	4,535	4,463	5,884	6,701	7,506	10,111	12,790	13,526
SOUTH DAKOTA	3,642	8,783	9,670	9,754	6,978	6,821	6,734	6,735	7,792	8,410
SOUTH ATLANTIC	146,227	200,164	257,337	284,544	322,363	362,635	389,636	447,818	489,892	534,725
DELAWARE	2,914	3,161	3,904	4,791	4,984	5,760	6,333	6,783	7,787	10,443
DISTRICT OF COLUMBIA	12,797	19,767	22,142	24,828	25,585	29,489	31,393	35,028	37,248	41,147
FLORIDA	12,079	36,303	47,958	55,797	65,468	73,428	76,742	87,590	98,401	105,002
GEORGIA	18,083	28,071	40,383	44,505	49,596	51,755	59,661	68,626	77,691	84,106
MARYLAND	36,009	43,496	54,348	52,803	63,392	70,843	79,045	89,935	93,583	102,599
NORTH CAROLINA	27,116	39,805	55,628	59,266	64,119	78,262	76,076	89,188	92,330	99,380
SOUTH CAROLINA	4,680	6,075	6,840	8,809	9,792	11,113	13,901	18,316	19,939	21,813
VIRGINIA	14,083	17,857	19,140	25,410	30,470	34,971	39,548	44,825	51,012	58,551
WEST VIRGINIA	3,466	5,629	6,994	8,335	8,957	7,014	6,937	7,527	11,901	11,684
EAST SOUTH CENTRAL	44,994	55,848	71,256	79,924	82,214	97,699	105,014	123,385	130,820	141,414
ALABAMA	11,027	13,387	18,674	19,221	22,116	27,005	31,066	37,918	37,870	42,340
KENTUCKY	8,706	10,915	12,873	14,245	14,236	16,667	17,334	21,414	22,938	27,620
MISSISSIPPI	6,687	9,580	12,428	15,310	16,646	19,023	21,999	23,909	26,195	25,445
TENNESSEE	18,574	21,966	27,281	31,148	29,216	35,004	34,615	40,144	43,817	46,009
WEST SOUTH CENTRAL	79,258	107,045	147,676	164,581	179,837	203,085	219,294	251,131	287,327	318,698
ARKANSAS	6,636	8,488	9,919	8,916	11,414	10,241	11,208	13,817	16,000	16,789
LOUISIANA	18,238	22,195	31,686	35,180	30,267	35,140	35,665	39,218	43,053	45,279
OKLAHOMA	10,754	13,713	18,915	17,824	19,247	20,028	19,106	21,513	23,156	26,289
TEXAS	43,630	62,649	87,156	102,661	118,909	137,676	153,315	176,583	205,118	230,341
MOUNTAIN	69,190	93,274	107,746	134,885	162,871	178,576	186,367	196,941	221,211	247,972
ARIZONA	9,881	14,392	11,742	16,773	23,911	30,321	31,164	33,539	37,198	41,827
COLORADO	20,268	26,799	36,291	51,267	59,399	63,997	62,585	65,897	73,308	77,519
IDAHO	3,847	4,794	4,995	6,543	8,084	8,727	10,600	11,877	13,704	15,215
MONTANA	3,788	5,528	6,706	8,553	6,756	9,771	9,614	10,831	13,254	14,168
NEVADA	2,607	4,749	5,494	5,539	6,085	6,449	7,537	7,824	9,404	9,043
NEW MEXICO	14,603	16,039	19,054	19,846	20,971	16,629	18,075	21,745	24,437	29,386
UTAH	11,111	16,555	18,286	20,142	32,005	36,004	39,635	37,500	40,789	49,742
WYOMING	3,085	4,418	5,178	6,222	5,660	6,678	7,157	7,728	9,117	11,072
PACIFIC	196,505	265,851	333,976	350,023	457,944	525,898	541,387	627,145	691,829	752,459
ALASKA	4,205	7,109	8,688	9,192	15,524	16,560	19,111	21,139	28,748	35,175
CALIFORNIA	144,813	198,925	245,959	244,720	323,834	380,220	391,995	458,436	500,756	537,838
HAWAII	7,341	8,619	12,043	18,014	23,520	24,846	21,143	24,596	28,049	28,900
OREGON	15,830	20,294	25,227	30,676	32,204	34,768	36,557	39,699	47,081	51,530
WASHINGTON	24,316	30,904	42,059	47,421	62,862	69,504	72,581	83,275	87,195	99,016
U.S. TERRITORIES	5,831	7,211	8,342	9,047	11,035	11,561	12,626	13,316	14,212	15,357

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-11. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY STATE: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
UNITED STATES TOTAL	917,322	1,261,034	1,572,064	1,647,500	1,838,933	2,038,206	2,032,143	2,287,779	2,501,139	2,716,767
NEW ENGLAND	118,600	182,304	223,491	235,027	259,063	278,521	230,407	255,953	281,827	312,537
CONNECTICUT	21,258	25,562	30,797	39,578	38,345	38,913	40,203	45,530	53,780	58,917
MAINE	1,507	1,107	1,385	1,567	3,206	4,423	4,571	4,046	4,080	4,171
MASSACHUSETTS	81,443	136,518	171,320	173,829	193,257	210,684	162,620	177,790	191,720	210,723
NEW HAMPSHIRE	4,434	6,312	5,823	7,493	6,648	7,347	5,858	7,699	9,038	9,547
RHODE ISLAND	7,702	10,059	10,920	8,699	12,852	12,345	11,976	13,608	14,173	19,361
VERMONT	2,256	2,746	3,246	3,861	4,755	4,809	5,179	7,280	9,036	9,818
MIDDLE ATLANTIC	198,518	263,590	324,085	323,441	336,347	366,996	375,558	417,040	452,574	482,614
NEW JERSEY	23,437	29,043	34,135	31,311	27,250	29,567	28,821	32,375	32,553	34,847
NEW YORK	120,282	162,054	202,292	202,582	220,318	244,365	245,002	275,659	293,667	313,501
PENNSYLVANIA	54,799	72,493	87,658	89,548	88,779	93,064	101,735	109,006	126,354	134,266
EAST NORTH CENTRAL	172,334	226,644	261,838	265,824	278,674	315,281	315,137	345,137	368,151	392,863
ILLINOIS	59,265	72,423	83,762	77,250	83,693	97,765	100,843	106,551	116,558	127,336
INDIANA	19,306	29,952	33,716	33,375	35,042	39,824	40,329	43,916	45,800	47,353
MICHIGAN	42,505	54,893	61,439	65,018	67,276	71,087	67,850	78,622	78,115	84,453
OHIO	29,023	36,458	47,465	50,310	49,890	54,828	52,969	60,597	68,179	73,119
WISCONSIN	22,235	32,918	35,456	39,871	42,773	51,777	53,146	55,451	59,499	60,602
WEST NORTH CENTRAL	57,846	78,341	107,004	118,856	123,398	126,730	134,091	148,034	160,279	176,329
IOWA	11,220	13,130	15,206	17,166	17,727	20,407	21,768	25,139	26,769	31,334
KANSAS	7,557	10,520	16,639	18,053	17,433	20,050	20,542	16,762	17,330	18,998
MINNESOTA	17,090	21,985	27,161	27,848	28,504	31,395	35,463	42,065	45,238	48,628
MISSOURI	14,944	23,517	36,701	43,682	46,961	41,947	42,597	47,876	52,097	56,434
NEBRASKA	2,997	4,365	5,809	6,625	7,144	7,380	7,610	8,904	10,853	11,905
NORTH DAKOTA	1,888	1,419	1,572	1,839	2,121	2,541	3,108	4,373	4,791	5,722
SOUTH DAKOTA	2,150	3,405	3,916	3,643	3,508	3,010	3,003	2,915	3,201	3,308
SOUTH ATLANTIC	99,208	137,494	178,038	190,141	208,886	235,012	244,242	285,023	317,255	340,301
DELAWARE	1,566	1,847	2,203	2,914	3,158	3,500	3,566	3,689	4,625	5,979
DISTRICT OF COLUMBIA	11,241	16,432	18,158	20,629	21,600	23,755	24,630	26,284	28,685	30,442
FLORIDA	15,775	20,602	28,441	28,634	37,131	41,600	42,370	48,162	56,008	55,836
GEORGIA	9,911	16,074	20,843	25,231	22,583	24,979	24,977	31,072	38,403	43,297
MARYLAND	28,712	35,114	42,611	42,044	47,800	54,959	61,228	65,483	73,666	78,490
NORTH CAROLINA	18,169	27,844	42,737	42,403	46,847	55,079	53,246	62,396	65,335	69,284
SOUTH CAROLINA	2,640	3,642	3,835	4,631	4,763	4,922	6,294	7,773	8,958	11,084
VIRGINIA	9,273	12,122	13,176	17,832	18,260	21,333	23,594	28,106	33,742	39,437
WEST VIRGINIA	1,921	3,817	6,034	5,823	6,344	4,885	4,337	5,558	7,833	6,452
EAST SOUTH CENTRAL	28,623	37,599	47,015	55,644	53,670	65,853	67,865	78,236	80,612	84,353
ALABAMA	6,868	8,286	12,087	13,385	15,136	19,655	21,967	26,695	26,515	27,965
KENTUCKY	4,833	7,145	8,756	9,996	8,192	9,045	8,924	11,488	11,059	11,832
MISSISSIPPI	3,958	5,630	6,923	9,144	7,766	9,029	9,370	9,533	10,381	10,711
TENNESSEE	12,964	16,538	19,253	23,119	22,576	28,124	27,604	30,520	32,657	33,845
WEST SOUTH CENTRAL	49,838	71,432	95,076	96,446	103,997	112,489	120,792	141,949	161,048	183,327
ARKANSAS	3,358	4,872	5,425	4,609	6,191	4,825	4,346	5,281	6,639	7,807
LOUISIANA	11,681	14,604	19,802	21,248	13,863	14,448	15,820	17,156	18,603	19,460
OKLAHOMA	6,603	8,208	12,475	8,747	10,375	11,186	9,765	11,081	12,952	14,434
TEXAS	28,196	43,748	57,374	61,842	73,568	82,030	90,861	108,431	122,854	141,626
MOUNTAIN	47,039	62,043	76,696	96,822	115,474	122,406	123,333	135,956	150,355	165,150
ARIZONA	6,638	8,443	7,345	9,534	11,949	15,818	16,038	17,353	20,461	23,017
COLORADO	15,863	20,653	29,914	41,027	48,081	50,161	47,253	52,149	56,051	57,891
IDAHO	1,486	1,858	1,895	2,801	3,697	3,868	4,805	5,005	5,834	6,560
MONTANA	1,621	2,478	3,722	4,656	3,058	4,127	4,289	5,059	7,046	7,593
NEVADA	1,150	2,137	2,860	2,860	3,310	3,560	3,047	2,870	2,851	4,207
NEW MEXICO	11,449	12,497	14,926	16,885	18,275	12,919	14,779	18,095	20,218	22,942
UTAH	7,833	12,209	13,336	15,656	23,594	27,422	28,496	30,356	31,937	35,690
WYOMING	999	1,728	2,694	3,403	3,510	4,531	4,626	5,069	5,957	7,250
PACIFIC	141,839	198,030	254,587	260,784	355,127	410,426	415,761	474,860	522,446	572,022
ALASKA	2,299	5,027	5,596	5,938	11,204	11,822	10,718	12,047	18,429	24,664
CALIFORNIA	108,270	151,613	193,368	189,464	263,314	306,894	311,789	360,398	395,580	423,856
HAWAII	4,177	5,615	6,697	10,413	13,725	15,382	14,065	15,540	17,578	17,945
OREGON	10,775	14,010	18,152	21,789	21,832	24,007	25,458	27,090	30,930	32,890
WASHINGTON	16,318	21,765	30,774	33,180	45,052	52,321	53,731	59,785	59,929	72,667
U.S. TERRITORIES	3,477	3,557	4,230	4,515	4,297	4,492	4,957	5,591	6,592	7,271

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-12. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY STATE AND SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	SOURCE OF FUNDS							
	TOTAL	FEDERAL GOVERNMENT	STATE GOVERNMENT	LOCAL GOVERNMENT	FOUNDATIONS AND HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	4,064,220	2,716,767	362,255	13,400	191,737	139,145	517,681	123,231
NEW ENGLAND	403,153	312,537	8,233	1,568	18,716	14,305	32,119	15,675
CONNECTICUT	79,348	58,917	1,693	32	3,848	1,186	12,284	1,388
MAINE	9,937	4,171	749	68	322	638	3,968	21
MASSACHUSETTS	265,490	210,723	4,199	1,170	13,336	11,791	11,139	13,132
NEW HAMPSHIRE	13,705	9,547	569	0	301	475	2,030	783
RHODE ISLAND	21,543	19,361	128	298	480	103	1,136	37
VERMONT	13,130	9,818	895	0	429	112	1,562	314
MIDDLE ATLANTIC	696,880	482,614	32,580	2,599	49,053	32,864	78,500	18,670
NEW JERSEY	59,040	34,847	6,123	251	2,550	2,603	12,431	235
NEW YORK	435,799	313,501	21,252	1,683	32,643	17,172	33,279	16,269
PENNSYLVANIA	202,041	134,266	5,205	665	13,860	13,089	32,790	2,166
EAST NORTH CENTRAL	631,773	392,863	55,028	1,836	28,404	22,564	102,472	28,206
ILLINOIS	174,328	127,336	5,363	951	9,096	3,711	21,882	5,989
INDIANA	69,570	47,353	6,433	135	2,136	3,414	9,602	497
MICHIGAN	146,973	84,453	11,366	559	5,822	7,477	30,624	6,672
OHIO	121,230	73,119	9,801	177	7,413	5,450	15,451	9,819
WISCONSIN	119,672	60,602	22,065	14	3,937	2,912	24,913	5,229
WEST NORTH CENTRAL	321,789	176,329	58,442	1,202	8,398	9,161	57,622	10,635
IOWA	60,830	31,334	10,669	853	974	1,971	14,428	601
KANSAS	36,939	18,998	8,955	35	637	847	7,097	370
MINNESOTA	83,088	48,628	13,667	101	3,153	2,066	11,525	3,948
MISSOURI	88,176	56,434	7,579	96	2,765	1,646	14,557	5,099
NEBRASKA	30,820	11,905	11,938	65	676	1,039	4,882	315
NORTH DAKOTA	13,526	5,722	5,260	0	64	1,255	1,200	25
SOUTH DAKOTA	8,410	3,308	374	52	129	337	3,933	277
SOUTH ATLANTIC	534,725	340,301	49,701	2,007	18,677	18,789	87,293	17,957
DELAWARE	10,443	5,979	1,335	131	477	827	1,557	142
DISTRICT OF COLUMBIA	41,147	30,442	48	25	2,674	2,035	2,898	3,025
FLORIDA	105,002	55,836	5,118	427	2,763	2,843	33,528	4,487
GEORGIA	84,106	43,297	1,836	485	1,699	4,703	31,205	881
MARYLAND	102,599	78,490	8,779	495	2,856	1,818	3,661	6,500
NORTH CAROLINA	99,380	69,284	17,760	75	5,379	3,068	2,237	1,577
SOUTH CAROLINA	21,813	11,084	872	79	776	749	7,647	606
VIRGINIA	58,551	39,437	9,951	290	1,758	2,487	4,170	458
WEST VIRGINIA	11,684	6,452	4,002	C	295	264	390	281
EAST SOUTH CENTRAL	141,414	84,353	27,565	675	4,156	3,598	14,481	6,586
ALABAMA	42,340	27,965	7,623	101	996	590	3,977	1,088
KENTUCKY	27,620	11,832	8,401	48	796	667	5,709	167
MISSISSIPPI	25,445	10,711	7,624	488	598	581	835	4,608
TENNESSEE	46,009	33,845	3,917	38	1,766	1,760	3,960	723
WEST SOUTH CENTRAL	318,698	183,327	53,068	300	20,140	10,008	43,201	8,654
ARKANSAS	16,789	7,807	6,476	0	229	488	1,610	179
LOUISIANA	45,279	19,460	1,117	80	2,530	1,160	17,698	3,234
OKLAHOMA	26,289	14,434	8,042	0	137	1,454	2,147	75
TEXAS	230,341	141,626	37,433	220	17,244	6,906	21,746	5,166
MOUNTAIN	247,972	165,150	39,523	1,650	6,547	14,759	13,320	7,023
ARIZONA	41,827	23,017	10,190	63	1,661	1,771	3,884	1,241
COLORADO	77,519	57,891	4,899	368	2,666	3,479	6,165	2,051
IDAHO	15,215	6,560	6,151	55	61	937	10	1,441
MONTANA	14,168	7,593	4,737	24	70	963	540	241
NEVADA	9,043	4,207	2,628	48	178	932	1,004	46
NEW MEXICO	29,386	22,942	2,968	26	483	1,586	984	397
UTAH	49,742	35,690	6,401	4	1,419	3,889	733	1,606
WYOMING	11,072	7,250	1,549	1,062	9	1,202	0	0
PACIFIC	752,459	572,022	32,636	1,530	37,625	12,658	86,169	9,819
ALASKA	35,175	24,664	808	13	424	581	7,814	471
CALIFORNIA	537,838	423,856	6,759	478	32,157	6,600	65,634	2,354
HAWAII	28,900	17,945	551	83	389	56	9,609	267
OREGON	51,530	32,890	8,533	140	2,196	1,380	2,783	3,608
WASHINGTON	99,016	72,667	15,985	816	2,459	3,641	329	3,119
U.S. TERRITORIES	15,357	7,271	5,479	33	21	43	2,504	6

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-13. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY STATE AND FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	FIELD OF SCIENCE								
	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	4,064,220	498,606	426,689	317,035	106,329	2,256,782	83,014	269,481	106,284
NEW ENGLAND	403,153	56,481	61,104	47,585	14,624	183,305	8,801	24,491	6,762
CONNECTICUT	79,348	4,746	8,239	2,044	1,315	56,124	2,586	4,185	109
MAINE	9,937	906	429	1,700	50	4,216	203	1,152	1,281
MASSACHUSETTS	265,490	45,896	47,561	34,317	11,828	98,470	4,914	17,715	4,789
NEW HAMPSHIRE	13,705	1,051	1,920	1,101	108	8,645	118	242	520
RHODE ISLAND	21,543	3,682	2,418	8,380	1,316	4,106	681	960	0
VERMONT	13,130	200	537	43	7	11,744	299	237	63
MIDDLE ATLANTIC	696,880	86,818	73,531	31,762	25,754	405,619	17,253	40,001	16,102
NEW JERSEY	59,040	11,833	10,120	3,992	3,166	19,663	4,314	5,165	787
NEW YORK	435,799	46,607	40,389	21,040	12,293	277,440	9,911	17,725	10,394
PENNSYLVANIA	202,041	28,378	23,022	6,730	10,335	108,516	3,028	17,111	4,921
EAST NORTH CENTRAL	631,773	90,413	70,891	31,481	17,085	323,891	18,887	59,438	19,687
ILLINOIS	174,328	20,436	22,583	9,817	7,114	88,727	4,313	13,353	7,985
INDIANA	69,570	12,570	12,620	803	1,423	33,748	1,289	5,744	1,373
MICHIGAN	146,973	22,744	11,589	6,801	3,179	74,556	7,161	19,728	1,215
OHIO	121,230	25,729	12,334	2,230	2,256	67,774	1,476	6,893	2,535
WISCONSIN	119,672	8,934	11,765	11,830	3,110	59,086	4,648	13,720	6,579
WEST NORTH CENTRAL	321,789	33,879	19,309	11,524	4,423	218,848	8,762	18,813	6,231
IOWA	60,830	7,620	6,714	226	2,380	36,723	607	4,814	1,746
KANSAS	36,939	4,201	2,016	2,774	551	20,160	4,342	1,960	935
MINNESOTA	83,088	5,971	5,504	1,495	921	61,881	2,371	3,462	1,483
MISSOURI	88,176	12,271	3,522	2,027	345	62,573	873	5,678	887
NEBRASKA	30,820	1,804	858	3,389	226	22,630	242	1,671	0
NORTH DAKOTA	13,526	1,264	532	913	0	10,005	17	761	34
SOUTH DAKOTA	8,410	748	163	700	0	4,876	310	467	1,146
SOUTH ATLANTIC	534,725	63,732	39,034	33,235	18,968	321,993	6,135	41,512	10,116
DELAWARE	10,443	3,414	1,014	2,104	148	2,436	261	901	165
DISTRICT OF COLUMBIA	41,147	3,948	3,165	373	4,301	17,987	387	6,619	4,367
FLORIDA	105,002	8,564	5,635	16,284	2,472	59,331	1,913	10,152	651
GEORGIA	84,106	19,695	6,759	1,976	1,582	43,412	943	8,965	774
MARYLAND	102,599	6,489	10,878	2,814	4,352	72,483	1,075	3,915	593
NORTH CAROLINA	99,380	5,361	4,471	5,732	4,753	68,787	887	6,555	2,794
SOUTH CAROLINA	21,813	2,741	1,201	903	109	15,948	151	889	71
VIRGINIA	58,551	10,229	5,646	2,718	1,139	36,291	514	1,313	701
WEST VIRGINIA	11,684	3,291	265	331	72	5,318	4	2,403	0
EAST SOUTH CENTRAL	141,414	12,997	5,575	2,271	773	105,727	2,827	6,376	4,868
ALABAMA	42,340	3,298	1,214	1,656	236	33,787	250	956	943
KENTUCKY	27,620	3,696	1,107	124	122	16,690	343	1,948	3,590
MISSISSIPPI	25,445	2,045	962	234	244	20,080	45	1,812	23
TENNESSEE	46,009	3,958	2,292	257	171	35,170	2,189	1,660	312
WEST SOUTH CENTRAL	318,698	35,679	30,415	21,213	5,974	189,548	5,877	15,030	14,962
ARKANSAS	16,789	615	526	24	368	13,610	4	547	1,095
LOUISIANA	45,279	2,753	3,149	4,683	684	31,067	596	2,119	228
OKLAHOMA	26,289	5,643	1,488	999	455	14,004	31	2,510	1,159
TEXAS	230,341	26,668	25,252	15,507	4,467	130,867	5,246	9,854	12,480
MOUNTAIN	247,972	44,293	37,618	23,754	7,040	106,671	3,784	20,361	4,451
ARIZONA	41,827	3,425	11,454	5,018	265	16,148	367	4,328	822
COLORADO	77,519	12,814	11,584	4,214	2,079	37,809	2,217	6,101	701
IDAHO	15,215	1,374	257	340	5	10,261	1	2,151	826
MONTANA	14,168	1,919	1,584	1,915	173	6,801	85	1,691	0
NEVADA	9,043	896	163	3,165	0	3,943	299	577	0
NEW MEXICO	29,386	12,510	1,573	2,293	3,319	6,620	226	2,314	531
UTAH	49,742	10,857	8,920	4,126	1,132	20,137	491	2,602	1,477
WYOMING	11,072	498	2,083	2,683	67	4,952	98	597	94
PACIFIC	752,459	73,875	88,792	113,189	11,548	388,884	10,624	42,665	22,882
ALASKA	35,175	311	7,075	17,458	123	7,919	0	1,829	460
CALIFORNIA	537,838	61,596	70,025	70,633	9,801	278,173	8,044	29,526	10,040
HAWAII	28,900	1,880	3,536	7,314	169	11,395	170	1,268	3,168
OREGON	51,530	2,365	3,261	6,710	502	29,621	969	6,805	1,297
WASHINGTON	99,016	7,723	4,895	11,074	953	61,776	1,441	3,237	7,917
U.S. TERRITORIES	15,357	439	420	1,021	100	12,296	64	794	223

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-14. PERCENT DISTRIBUTION OF R&D EXPENDITURES GROUPED BY UNIVERSITIES AND COLLEGES WITH LARGEST R&D PROGRAMS, BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	4,064,220	2,716,767	362,255	13,400	191,737	139,149	517,681	123,231
			PERCENT DISTRIBUTION					
TOTAL 1ST 10 INSTS.	20.4	22.6	14.8	11.6	19.0	15.2	13.5	25.7
TOTAL 1ST 20 INSTS.	35.0	38.0	24.9	25.0	38.5	27.9	26.9	37.8
TOTAL 1ST 30 INSTS.	45.8	47.9	36.2	30.8	46.9	40.2	42.5	48.8
TOTAL 1ST 40 INSTS.	54.0	56.0	41.7	41.0	56.3	48.0	54.0	52.0
TOTAL 1ST 50 INSTS.	61.2	62.0	51.8	44.8	61.1	56.4	65.7	60.3
TOTAL 1ST 60 INSTS.	67.4	68.4	55.3	48.2	67.3	59.5	73.0	67.4
TOTAL 1ST 70 INSTS.	72.4	73.0	67.0	51.9	70.3	67.3	74.2	69.6
TOTAL 1ST 80 INSTS.	76.8	77.2	74.1	57.8	74.3	69.7	80.7	74.5
TOTAL 1ST 90 INSTS.	80.4	80.4	80.2	58.7	76.2	72.2	85.1	78.9
TOTAL 1ST 100 INSTS.	83.3	83.5	82.3	59.2	80.1	75.7	86.5	83.8
TOTAL 1ST 110 INSTS.	85.9	86.0	87.8	68.9	81.5	78.9	87.9	86.7
TOTAL 1ST 120 INSTS.	88.1	88.1	90.8	74.1	83.3	81.2	89.5	89.6
TOTAL 1ST 130 INSTS.	89.9	90.1	92.4	75.4	86.3	83.5	90.2	90.7
TOTAL 1ST 140 INSTS.	91.5	91.9	92.7	79.9	89.4	84.9	91.2	92.0
TOTAL 1ST 150 INSTS.	92.8	93.1	94.4	82.5	90.6	86.6	93.1	93.5
TOTAL 1ST 160 INSTS.	93.9	94.3	95.3	85.4	92.0	88.4	93.6	94.0
TOTAL 1ST 170 INSTS.	94.9	95.2	95.7	87.1	93.0	90.6	94.6	95.4
TOTAL 1ST 180 INSTS.	95.7	95.9	95.8	87.9	94.1	91.8	95.6	97.0
TOTAL 1ST 190 INSTS.	96.3	96.5	96.2	88.6	94.7	94.0	96.2	97.5
TOTAL 1ST 200 INSTS.	96.8	97.0	96.7	89.1	94.9	94.8	97.0	97.6
TOTAL ALL OTHER INSTS.	3.2	3.0	3.3	10.9	5.1	5.2	3.0	2.4

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-15. PERCENT DISTRIBUTION OF R&D EXPENDITURES GROUPED BY UNIVERSITIES AND COLLEGES WITH LARGEST R&D PROGRAMS, BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	4,064,220	498,606	426,689	317,035	106,329	2,256,782	83,014	269,481	106,284
				PERCENT DISTRIBUTION					
TOTAL 1ST 10 INSTS.	20.4	20.6	22.9	32.4	20.2	17.8	24.2	20.5	25.0
TOTAL 1ST 20 INSTS.	35.0	35.4	38.3	42.2	31.1	32.8	37.7	37.1	42.5
TOTAL 1ST 30 INSTS.	45.8	45.3	47.0	47.8	42.7	45.5	43.5	46.7	47.3
TOTAL 1ST 40 INSTS.	54.0	51.6	58.1	60.4	52.2	53.1	51.6	54.3	52.9
TOTAL 1ST 50 INSTS.	61.2	61.4	62.9	68.2	55.8	60.7	55.0	59.7	57.9
TOTAL 1ST 60 INSTS.	67.4	65.8	70.0	69.8	67.3	67.8	63.4	63.1	63.9
TOTAL 1ST 70 INSTS.	72.4	71.2	73.3	77.6	71.5	73.0	65.7	65.9	67.6
TOTAL 1ST 80 INSTS.	76.8	74.2	75.2	79.0	77.8	78.6	72.1	69.6	72.3
TOTAL 1ST 90 INSTS.	80.4	77.9	78.7	82.2	81.0	82.1	74.9	74.6	74.2
TOTAL 1ST 100 INSTS.	83.3	80.8	80.2	83.0	85.6	85.7	76.3	76.7	78.8
TOTAL 1ST 110 INSTS.	85.9	83.3	82.4	85.2	86.8	88.4	78.0	80.0	81.3
TOTAL 1ST 120 INSTS.	88.1	84.4	84.2	88.5	87.7	90.8	79.7	83.0	82.9
TOTAL 1ST 130 INSTS.	89.9	87.1	86.0	88.9	88.8	92.7	80.6	84.2	84.9
TOTAL 1ST 140 INSTS.	91.5	88.3	88.5	89.6	89.9	94.4	81.1	85.2	86.3
TOTAL 1ST 150 INSTS.	92.8	90.1	90.1	90.8	90.4	95.7	82.8	86.4	88.1
TOTAL 1ST 160 INSTS.	93.9	92.4	91.2	91.9	91.8	96.5	84.3	87.7	90.3
TOTAL 1ST 170 INSTS.	94.9	93.6	92.2	92.5	92.8	97.3	85.3	89.1	92.0
TOTAL 1ST 180 INSTS.	95.7	94.6	93.2	94.3	93.8	97.8	88.6	89.5	92.0
TOTAL 1ST 190 INSTS.	96.3	95.9	94.0	95.4	94.5	98.2	89.0	90.3	92.6
TOTAL 1ST 200 INSTS.	96.8	97.2	95.0	95.6	95.4	98.3	89.9	92.0	93.0
TOTAL ALL OTHER INSTS.	3.2	2.8	5.0	4.4	4.6	1.7	10.1	8.0	7.0

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	4,064,420	3,730,688	3,409,194	3,023,425	2,716,767	2,501,139	2,287,779	2,032,143
1 UNIV OF WISCONSIN-MADISON	103,356	98,097	95,436	86,088	53,386	51,870	48,217	47,339
2 MASS INST OF TECHNOLOGY	102,045	94,280	84,668	76,993	85,066	76,654	69,599	62,455
3 U OF CAL SAN DIEGO	87,636	82,257	76,898	67,209	78,719	73,741	69,032	60,904
4 UNIVERSITY OF MINNESOTA	82,679	75,103	69,655	60,404	48,409	45,031	41,827	35,237
5 UNIVERSITY OF MICHIGAN	79,922	79,179	74,553	62,880	50,908	49,223	46,671	39,867
6 UNIVERSITY OF WASHINGTON	77,757	68,286	65,947	56,688	66,066	54,420	55,260	49,103
7 STANFORD UNIVERSITY	77,019	72,725	66,876	53,950	71,115	66,990	59,640	50,262
8 HARVARD UNIVERSITY	73,301	65,318	64,176	58,207	55,485	50,537	49,667	47,293
9 COLUMBIA UNIV MAIN DIV	72,948	67,006	68,197	56,465	58,973	53,545	50,852	45,210
10 CORNELL UNIVERSITY	71,346	66,199	61,545	56,542	45,895	41,744	36,841	33,269
TOTAL 1ST 10 INSTS.	828,209	768,450	727,951	635,426	614,022	563,755	527,606	470,939
11 UNIV OF PENNSYLVANIA	70,721	69,648	61,626	52,855	47,313	46,107	41,640	37,892
12 U OF CAL BERKELEY	70,148	67,986	65,087	58,294	50,197	48,916	46,648	43,123
13 U OF CAL LOS ANGELES	69,277	62,793	57,831	50,016	55,956	51,127	47,326	41,367
14 JOHNS HOPKINS UNIVERSITY	61,858	57,296	56,471	50,924	50,445	47,690	45,787	41,768
15 UNIVERSITY OF CHICAGO	59,332	55,110	53,743	52,581	46,109	42,812	41,822	39,126
16 UNIV ILLINOIS URBANA	59,320	57,005	51,203	48,652	40,558	38,515	32,846	32,454
17 UNIVERSITY OF ROCHESTER	53,129	46,586	38,848	38,850	33,502	30,732	26,852	28,559
18 TEXAS A & M UNIVERSITY	51,810	47,015	39,349	37,209	21,757	17,823	16,180	15,180
19 UNIV OF TEXAS AT AUSTIN	49,699	46,856	41,754	36,066	30,118	27,306	23,830	20,266
20 U OF CAL SAN FRANCISCO	49,677	47,824	43,261	33,922	41,220	40,736	36,450	28,118
TOTAL 1ST 20 INSTS.	1,423,180	1,326,569	1,237,124	1,094,795	1,031,197	955,519	886,987	798,792
21 MICHIGAN STATE UNIVERSITY	48,058	41,724	38,568	32,683	22,948	20,246	24,257	21,253
22 YALE UNIVERSITY	47,887	43,559	41,032	36,576	42,237	39,003	35,255	31,480
23 U OF CAL DAVIS	47,191	45,707	40,707	35,214	24,044	24,344	20,573	18,297
24 NEW YORK UNIVERSITY	45,789	42,635	40,976	34,333	36,922	33,920	31,714	25,994
25 OHIO STATE UNIVERSITY	45,367	39,471	38,727	33,590	24,559	23,136	21,116	19,043
26 PENNSYLVANIA STATE UNIV	44,566	40,332	30,375	32,078	25,787	24,350	16,105	18,174
27 PURDUE UNIV ALL CAMPUSES	42,733	40,703	35,109	30,307	25,866	24,408	20,278	17,830
28 UNIVERSITY OF FLORIDA	41,895	38,559	36,149	30,453	14,091	17,117	14,514	10,118
29 WASHINGTON UNIVERSITY	38,431	35,048	30,165	25,923	33,138	30,795	27,101	23,497
30 UNIVERSITY OF ARIZONA	36,430	32,768	29,761	28,103	19,632	17,434	14,902	14,558
TOTAL 1ST 30 INSTS.	1,861,527	1,727,075	1,598,693	1,414,055	1,300,421	1,210,272	1,112,802	999,036
31 UNIVERSITY OF COLORADO	35,449	34,918	30,825	31,273	27,362	27,108	25,313	23,761
32 UNIVERSITY OF GEORGIA	35,216	34,988	33,076	30,594	11,591	11,692	10,399	7,547
33 UNIVERSITY OF ALASKA	35,175	28,748	21,139	19,111	24,664	18,429	12,047	10,718
34 IOWA ST U OF SCI & TECH	35,034	30,413	26,346	22,152	10,539	7,214	7,235	6,295
35 CALIFORNIA INST OF TECH	33,866	25,145	22,398	19,960	29,090	21,614	19,262	17,751
36 UNIV OF STHRN CALIFORNIA	32,656	33,865	29,183	24,624	28,319	29,074	24,921	20,916
37 UNIVERSITY OF MIAMI	32,455	31,843	28,101	27,491	24,815	22,604	20,819	18,753
38 UNIVERSITY OF UTAH	31,812	25,339	22,777	25,450	24,576	22,675	20,504	18,976
39 ROCKEFELLER UNIVERSITY	31,773	29,231	27,446	24,722	14,403	12,757	11,503	10,091
40 UNIV OF NC AT CHAPEL HILL	31,611	30,143	30,136	25,380	25,776	24,511	24,825	22,412
TOTAL 1ST 40 INSTS.	2,196,574	2,031,708	1,870,120	1,664,812	1,521,556	1,407,350	1,285,630	1,156,256
41 DUKE UNIVERSITY	30,352	28,488	26,791	21,208	27,127	25,120	23,365	17,621
42 COLORADO STATE UNIVERSITY	30,213	27,734	24,288	21,096	21,589	20,782	17,902	15,623
43 N C STATE UNIV AT RALEIGH	30,130	26,295	25,578	23,879	10,630	9,716	9,496	9,016
44 UNIVERSITY OF CONNECTICUT	29,528	26,156	18,466	15,502	15,588	13,639	8,819	7,350
45 OREGON STATE UNIVERSITY	29,195	27,224	24,181	21,833	15,670	15,150	13,600	12,559
46 UNIV OF HAWAII-MANOA	28,900	28,049	24,596	21,143	17,945	17,578	15,540	14,065
47 UNIV OF MISSOURI COLUMBIA	28,511	26,616	24,538	23,205	10,402	9,229	8,796	8,524
48 LOUISIANA ST UNIV SYSTEM	28,380	25,341	23,937	21,471	8,014	7,158	7,041	6,165
49 GEORGIA INSTITUTE OF TECH	27,782	22,722	17,109	14,133	15,198	11,609	9,184	6,904
50 CASE WESTERN RESERVE UNIV	27,484	25,701	21,697	18,395	19,713	18,401	17,460	14,985
TOTAL 1ST 50 INSTS.	2,487,049	2,296,034	2,101,301	1,866,677	1,683,432	1,555,732	1,420,833	1,269,068

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 YESHIVA UNIVERSITY	27,205E	30,165	28,502	24,595	24,627E	25,037	23,272	20,906
52 UNIV OF MD COLLEGE PARK	26,637	22,824	21,431	18,619	15,877	14,345	13,380	11,396
53 NORTHWESTERN UNIVERSITY	26,378	23,261	21,097	17,277	20,988	17,473	15,811	13,105
54 RUTGERS THE STATE UNIV	26,234	24,661	25,638	26,613	11,517	10,979	10,484	9,683
55 U TEX CAN CTR MDA H & TI	25,858	22,306	17,216	14,706	15,732	12,687	10,692	9,255
56 UNIVERSITY OF IOWA	25,472	21,600	20,128	17,178	20,701	19,399	17,553	15,057
57 UNIVERSITY OF PITTSBURGH	23,958	19,878	17,463	14,098	18,286	17,543	14,742	11,728
58 UNIVERSITY OF CINCINNATI	23,573	20,593	15,473	14,950	10,140	9,492	8,105	6,845
59 PRINCETON UNIVERSITY	23,424	22,173	19,737	18,945	16,861	16,418	14,918	13,413
60 BAYLOR COLLEGE OF MED	23,355	22,923	19,643	17,172	21,063	20,549	18,118	15,650
TOTAL 1ST 60 INSTS.	2,739,143	2,526,418	2,307,629	2,050,830	1,859,224	1,719,654	1,567,908	1,396,106
61 UNIV OF NEBRASKA - LNCLN	23,198	20,903	18,084	15,161	6,397	5,418	4,460	3,589
62 VA POLYTECH INST & ST U	22,834	20,476	18,089	15,012	10,914	9,508	7,547	5,360
63 UNIV OF KENTUCKY ALL CAM	20,440	16,132	15,269	12,781	7,137	6,653	7,851	5,745
64 WASHINGTON STATE UNIV	20,108	17,999	16,534	15,177	5,808	4,955	4,100	4,236
65 WOODS HOLE OCNGRPHIC INST	20,073	18,955	17,196	14,468	17,392	17,055	14,946	12,992
66 UNIV ALABAMA BIRMINGHAM	19,701	18,458	16,324	14,332	17,327	16,977	15,134	13,230
67 UNIVERSITY OF VIRGINIA	19,323E	16,103	14,292	13,005	15,336E	12,780	10,816	9,437
68 CUNY MT SINAI SCH OF MED	19,308	19,375	17,234	12,352	16,036	15,702	13,492	8,740
69 CARNEGIE-MELLON UNIV	19,039	17,149	15,443	14,880	12,232	10,978	9,968	8,736
70 VANDERBILT UNIVERSITY	18,773	17,894	15,171	13,659	16,042	15,596	13,341	11,817
TOTAL 1ST 70 INSTS.	2,941,940	2,709,862	2,471,265	2,191,657	1,983,845	1,835,276	1,669,563	1,479,988
71 BOSTON UNIVERSITY	18,682	16,860	15,944	12,048	16,824	15,027	13,935	10,648
72 MISSISSIPPI STATE UNIV	18,439	16,680	15,824	14,506	5,257	4,466	4,099	4,639
73 U OF CAL RIVERSIDE	18,365	17,592	17,024	15,106	6,814	6,408	6,702	6,257
74 GEORGE WASHINGTON UNIV	18,330	17,141	14,557	12,577	16,844	15,231	13,011	11,264
75 UNIVERSITY OF KANSAS	18,134	17,000	15,142	18,895	12,499	11,225	10,726	14,535
76 SUNY AT BUFFALO	18,130	14,272	14,391	14,648	14,907	11,931	13,485	13,358
77 KANSAS ST UNIVERSITY	17,793	16,495	14,561	13,352	6,133	5,767	5,611	5,591
78 OKLAHOMA STATE UNIVERSITY	17,779	15,670	15,167	13,297	7,335	6,795	6,216	5,301
79 TEMPLE UNIVERSITY	17,415	16,163	16,461	16,164	12,873	11,486	11,272	10,792
80 U TEX HLTH SCI CTR DALLAS	16,755	14,476	8,436	6,969	13,383	11,760	6,898	5,349
TOTAL 1ST 80 INSTS.	3,121,762	2,872,211	2,618,772	2,329,219	2,096,714	1,935,372	1,761,518	1,567,722
81 FLORIDA STATE UNIVERSITY	16,220	16,013	14,320	11,769	8,606	8,844	8,428	8,999
82 AUBURN UNIVERSITY	15,919	12,813	12,049	10,424	5,642	4,362	4,230	3,821
83 UNIV OF MASS AT AMHERST	15,112	13,658	11,990	14,197	8,880	8,130	7,398	7,852
84 UNIVERSITY OF IDAHO	14,554	13,174	11,622	10,021	6,037	5,397	4,842	4,306
85 SUNY AT STONY BROOK	14,466	12,954	10,000	8,910	11,843	11,698	8,682	7,324
86 U OF CAL IRVINE	14,299	13,234	11,329	8,619	12,046	11,475	9,987	7,427
87 UTAH STATE UNIVERSITY	14,092	12,626	11,591	11,529	9,689	8,735	8,375	7,921
88 UNIVERSITY OF NEW MEXICO	13,397	11,236	8,844	7,095	9,449	8,814	7,223	5,632
89 UNIV OF VT & ST AGRIC COL	13,095	12,128	10,527	7,786	9,806	9,013	7,240	5,127
90 CLEMSON UNIVERSITY	12,782	11,457	11,364	8,288	4,365	3,111	2,932	2,572
TOTAL 1ST 90 INSTS.	3,265,698	3,001,504	2,732,408	2,427,857	2,183,077	2,014,951	1,830,855	1,628,703
91 NEW MEXICO STATE UNIV	12,740	10,567	9,966	7,986	11,210	9,278	8,746	7,249
92 EMORY UNIVERSITY	12,657	12,322	11,046	8,844	11,475	11,053	9,694	7,514
93 GEORGETOWN UNIVERSITY	12,644	10,865	10,944	8,876	6,117	5,846	5,448	4,792
94 WAYNE STATE UNIVERSITY	11,862	10,413	8,811	7,168	7,649	6,088	5,457	4,450
95 U TEX GALVESTON MED BRAN	11,858	10,409	9,099	7,649	7,219	6,283	5,841	4,430
96 VIRGINIA COMMONWLTH UNIV	11,793	9,083	7,315	6,871	9,473	7,278	5,436	5,152
97 BROWN UNIVERSITY	11,711	9,101	8,975	8,345	9,846	8,208	8,143	7,779
98 TULANE UNIVERSITY	11,655	12,529	12,028	11,315	7,493	8,055	7,734	7,276
99 WEST VIRGINIA UNIVERSITY	11,634	11,677	7,418	6,820	6,452	7,632	5,469	4,225
100 UNIV OF MD BALT PROF SCH	11,501	10,902	9,892	7,981	9,824	9,237	8,445	6,724
TOTAL 1ST 100 INSTS.	3,385,753	3,109,372	2,827,902	2,509,712	2,269,835	2,053,909	1,901,268	1,688,294

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
101 UNIVERSITY OF OREGON	11,258	10,123	7,690	7,276	8,387	8,183	7,506	6,975
102 UNIVERSITY OF WYOMING	11,072	9,117	7,728	7,157	7,250	5,957	5,069	4,626
103 U PUERTO RICO MAYAGUEZ	10,504E	10,004	10,049	9,425	3,727E	3,549	3,190	3,147
104 UNIVERSITY OF DELAWARE	10,443	7,787	6,783	6,333	5,979	4,625	3,689	3,566
105 IND U PURDUE/INDIANAPOLIS	10,409	11,271	8,748	8,168	6,991	7,192	6,102	5,665
106 SUNY DOWNSTATE MED CTR	10,393	9,970	8,885	7,535	8,200	8,267	7,336	6,001
107 UNIVERSITY OF ARKANSAS	10,392	10,417	9,926	8,422	3,408	2,794	2,773	2,306
108 MONTANA STATE UNIVERSITY	10,293	9,626	7,622	6,130	4,873	4,596	3,060	2,314
109 UNIVERSITY OF DAYTON	10,180	8,076	7,024	6,333	9,000	7,250	6,548	6,080
110 ST LOUIS UNIV	10,001I	9,175	9,269	5,704	8,295I	7,610	8,235	4,943
TOTAL 1ST 110 INSTS.	3,490,698	3,204,938	2,911,626	2,582,195	2,335,945	2,153,932	1,954,776	1,733,917
111 UNIV OF RHODE ISLAND	9,822	7,057	6,738	5,187	9,515	5,963	5,460	4,166
112 UNIV OF MAINE ORONO	9,704	9,306	8,489	6,824E	4,113	3,962	3,968	4,436E
113 NORTH DAKOTA STATE UNIV	9,626	8,906	6,856	5,602	2,437	2,015	1,665	1,514
114 INDIANA UNIV-BLOOMINGTON	9,486	9,494	10,289	8,678	8,724	8,427	8,896	7,200
115 U OF OREGON HLTH SCI CTR	8,977	8,255	5,508	5,753	7,312	6,568	4,289	4,707
116 UNIVERSITY OF DENVER	8,606	7,629	7,880	7,604	6,452	5,673	6,329	5,425
117 U OF ILL MEDICAL CENTER	8,529	7,203	6,216	6,224	6,231	5,050	3,747	3,999
118 INST OF AGRI UNIV OF TENN	8,204	7,729	6,748	4,788	2,750	2,477	2,279	2,078
119 ALBANY MED COLLEGE	8,148	6,367	6,939	5,980	3,917	3,930	4,015	3,139
120 UNIV OKLAHOMA	7,915	6,773	5,387	4,991	6,923	5,974	4,687	4,209
TOTAL 1ST 120 INSTS.	3,579,715	3,283,657	2,982,676	2,643,826	2,394,319	2,203,971	2,000,111	1,774,790
121 U TENN CTR HLTH SCIENCES	7,719	8,095	7,444	6,142	6,493	6,791	6,244	5,198
122 BRANDEIS UNIVERSITY	7,571	6,914	7,033	6,747	6,840	6,173	6,438	6,057
123 THOM JEFFERSON UNIV	7,560	7,240	6,915	5,460	6,147	5,783	5,419	4,215
124 TUFTS UNIVERSITY	7,514	7,988	7,128	7,647	5,346	6,805	6,016	6,280
125 UNIVERSITY OF HOUSTON	7,468	4,405	4,782	3,387	4,365	3,057	4,107	2,728
126 U TEX HLTH SCI CTR HOUSTN	7,268	6,823	6,249	4,625	5,747	5,604	5,243	3,909
127 TEXAS TECH UNIVERSITY	7,119	5,200	5,127	4,084	3,170	1,904	1,514	935
128 DARTMOUTH COLLEGE	7,031	6,846	5,690	3,726	6,400	6,111	5,105	3,371
129 RENSSELAER POLY INST	6,999	6,130	5,638	5,030E	5,231	4,916	4,672	4,482E
130 LEHIGH UNIVERSITY	6,940	6,629	5,054	4,823	3,512	3,574	3,235	3,179
TOTAL 1ST 130 INSTS.	3,652,904	3,349,927	3,043,736	2,695,497	2,447,570	2,254,689	2,048,104	1,815,144
131 U OF CAL SANTA BARBARA	6,700	6,450	5,452	4,770	5,421	5,381	4,565	3,857
132 UNIV OF NEW HAMPSHIRE	6,674	5,117	4,373	3,547	3,147	2,927	2,594	2,487
133 SYRACUSE UNIVERSITY	6,620	6,333	6,659	6,020	5,624	5,493	5,780	5,017
134 U OF NEB MED CTR	6,478	6,097	5,665	4,617	4,690	4,401	3,599	3,338
135 U TEX HLTH SCI CR SAN ANT	6,436	5,367	4,593	3,494	5,147	4,207	3,658	2,753
136 MEDICAL COLL OF GEORGIA	6,366	5,784	5,664	5,036	3,807	2,788	2,764	2,449
137 UNIVERSITY OF NOTRE DAME	6,247	5,429	5,018	5,011	5,475	4,651	4,378	4,428
138 SUNY UPSTATE MEDICAL CTR	6,236	13,210	11,591	9,264	4,583	7,793	7,610	6,051
139 RICE UNIVERSITY	6,222	5,216	6,591	6,297	4,963	4,186	5,499	5,122
140 NEW YORK MEDICAL COLLEGE	6,180	6,136	6,056	5,473	5,011	4,708	4,757	4,274
TOTAL 1ST 140 INSTS.	3,717,063	3,415,066	3,105,398	2,749,026	2,495,438	2,301,224	2,093,308	1,854,920
141 U TENNESSEE KNOXVILLE	6,058	5,348	6,042	4,898	4,881	4,302	5,326	4,232
142 UNIVERSITY OF LOUISVILLE	5,995	5,500	4,778	3,324	3,765	3,367	2,627	2,280
143 U OF CAL SANTA CRUZ	5,836	4,724	3,605	3,015	4,298	3,282	2,262	1,871
144 SOUTH DAKOTA STATE UNIV	5,830	5,309	4,771	4,527	2,009	1,909	1,645	1,607
145 MED COLLEGE OF WISCONSIN	5,817	6,122	5,924	5,386	4,221	4,003	4,006	3,432
146 UNIV OF SOUTH FLORIDA	5,385	5,460	3,927	2,108	3,274	4,053	1,300	1,084
147 MED UNIV OF SO CAROLINA	5,225	4,472	3,358	2,948	4,049	3,471	2,846	2,346
148 UNIV OF NEVADA - RENO	5,180	4,124	3,764	4,114	1,964	1,340	1,333	1,373
149 UNIV OF MISSOURI ROLLA	5,069	5,096	4,389	4,649	2,521	2,645	2,076	2,255
150 U OF WIS MILWAUKEE	5,003	4,621	4,369	3,760	1,635	1,692	1,581	1,190
TOTAL 1ST 150 INSTS.	3,772,461	3,465,842	3,150,325	2,787,755	2,528,055	2,331,288	2,118,310	1,876,590

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
151 MICHIGAN TECH UNIVERSITY	4,977	4,616	4,128	3,244	1,672	1,447	1,098	925
152 UNIV OF MISSISSIPPI	4,965	7,298	6,124	6,073	3,860	4,280	3,706	3,608
153 US NAVAL POSTGRAD SCHOOL	4,756	2,541	3,095	2,601	4,749	2,534	3,095	2,601
154 POLYTECHNIC INST OF N Y	4,698	3,501E	3,501	3,761	3,327	3,337E	3,337	3,453
155 WAKE FOREST UNIVERSITY	4,689	4,391	3,765	3,093	3,931	3,715	3,069	2,453
156 ARIZONA STATE UNIVERSITY	4,441	3,542	3,333	2,617	3,077	2,562	2,342	1,395
157 MED COLL OHIO AT TOLEDO	4,249	4,068	1,625	1,391	3,421	3,299	1,250	1,082
158 SAN DIEGO STATE UNIV	4,234	3,712	2,956	2,966	3,353	2,830	2,292	2,377
159 UNIV OF ILL CHICAGO CIR	4,152	2,448	3,306	2,021	2,878	1,966	2,649	1,828
160 SUNY AT ALBANY	4,116	3,900	4,001	3,497	3,194	2,698	2,900	2,767
TOTAL 1ST 160 INSTS.	3,817,738	3,505,859	3,186,159	2,819,019	2,561,517	2,359,956	2,144,048	1,899,079
161 NORTHEASTERN UNIVERSITY	3,999	3,153	2,733	2,846	3,066	2,373	2,067	2,362
162 UNIV OF NORTH DAKOTA	3,900	3,884	3,255	1,890	3,285	2,776	2,708	1,580
163 SOUTHERN ILL U-CARBONDALE	3,854	4,519	2,156	2,439	1,687	1,478	693	654
164 BRIGHAM YOUNG UNIVERSITY	3,838	2,824	3,132	2,656	1,425	1,127	1,477	1,599
165 BOSTON COLLEGE	3,788	3,078	3,872	3,280	3,068	2,826	2,578	1,967
166 UNIV OF CAL SYS-WIDE PROG	3,766	3,778	2,651	2,139	172	217	106	72
167 U OF ARKANSAS MED SCI CAM	3,757	3,307	2,318	2,258	3,077	2,536	1,812	1,654
168 STEVENS INSTITUTE OF TECH	3,734	3,104	3,158	3,472	2,388	2,218	2,080	2,113
169 COL OF MED & DENT OF N J	3,664	2,811	5,659	4,328	2,927	2,172	4,385	3,294
170 HOWARD UNIVERSITY	3,442	3,251	3,069	4,210	2,934	2,768	2,612	3,680
TOTAL 1ST 170 INSTS.	3,855,480	3,539,568	3,218,162	2,848,543	2,585,546	2,380,447	2,164,566	1,918,054
171 CITY COLLEGE OF CUNY	3,424	3,160	3,158	1,943I	2,526	2,475	2,309	1,426I
172 HAHNEMANN MED COL & HOSP	3,398	2,370	2,166	2,902	2,475	1,729	1,256	2,257
173 RUSH UNIVERSITY	3,397	4,732	4,097	4,759	2,518	3,488	3,149	3,762
174 DREXEL UNIVERSITY	3,389	2,860	2,443	2,466	2,549	1,828	1,660	1,638
175 DESERT RESEARCH INSTITUTE	3,224	3,832	3,423	3,210	1,967	1,511	1,397	1,562
176 TEXAS CHRISTIAN UNIV	3,200	1,740	1,643	1,489	2,500	1,398	1,316	1,078
177 LOMA LINDA UNIVERSITY	3,155	2,037	1,751	1,177	1,796	1,151	1,334	801
178 UNIV OF MO CENTRAL OFF	3,052	2,697	3,497	4,758	380	370	365	1,872
179 SUNY COL OF ENV SCI & FOR	2,992	2,711	2,502	2,362	1,665	1,227	891	880
180 UNIV OF SOUTH CAROLINA	2,842	3,176	3,111	2,245	1,957	1,741	1,555	982
TOTAL 1ST 180 INSTS.	3,887,553	3,568,883	3,245,953	2,875,854	2,605,879	2,357,365	2,179,798	1,934,312
181 U MASS MED SCHL-WORCESTER	2,816	1,899	915	264	1,970	1,275	778	239
182 UNIVERSITY OF MONTANA	2,802	2,729	2,727	3,040	1,706	1,695	1,680	1,709
183 FLORIDA A & M UNIVERSITY	2,757	2,433	1,509	1,405	2,717	1,669	1,213	1,228
184 WORCESTER POLY INSTITUTE	2,644	2,263	1,964	1,488	747	693	402	414
185 ILLINOIS INST OF TECH	2,638	2,189	1,764	2,277	2,099	1,896	1,524	2,038
186 U PUERTO RICO MED SCI CMP	2,559I	2,348I	2,115	1,963	2,527I	2,318I	2,107	1,579
187 U OF ARKANSAS PINE BLUFF	2,472	2,247	1,430	299	1,244	1,288	666	299
188 INSTITUTE PAPER CHEMISTRY	2,468	2,104	1,822	2,045	88	233	132	169
189 UNIV OF NEW ORLEANS	2,391	2,750	964	787	1,626	1,444	768	662
190 N MEX INST MINING & TECH	2,327	1,980	2,321	2,695	1,835	1,769	1,615	1,618
TOTAL 1ST 190 INSTS.	3,913,427	3,591,825	3,263,484	2,892,117	2,622,438	2,411,645	2,190,683	1,944,267
191 AMERICAN UNIVERSITY	2,324	2,283	2,408	2,105	2,088	2,268	2,364	2,059
192 COLORADO SCHOOL OF MINES	2,312	2,106	1,922	1,259	1,633	1,652	1,653	1,102
193 CATHOLIC UNIV OF AMERICA	2,176	2,509	2,930	2,462	1,832	2,001	2,331	2,092
194 FLORIDA TECH UNIV	2,105	1,269	469	411	482	206	268	295
195 UNIV ALABAMA HUNTSVILLE	2,095	1,265	1,271	1,187	1,537	1,042	1,082	1,099
196 UNIV OF WEST FLORIDA	2,070	934	727	622	587	181	156	101
197 GALLAUDET COLLEGE	2,060	929	874	951	456	326	280	537
198 OLD DOMINION UNIVERSITY	1,989	2,024	1,674	1,979	1,855	1,974	1,603	1,740
199 LOYOLA UNIVERSITY	1,956	1,895	2,025	1,625	1,663	1,673	1,769	1,433
200 CLARKSON COL OF TECH	1,942	1,486	1,168	1,122	1,419	1,270	900	823
TOTAL 1ST 200 INSTS.	3,934,456	3,608,525	3,278,952	2,905,840	2,635,990	2,424,238	2,203,089	1,955,548

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
201 SOUTHERN METHODIST UNIV	1,905	1,695	1,780	1,530	1,352	1,122	1,130	1,064
202 SUNY BINGHAMTON	1,866	1,738	1,712	1,189	1,306	1,211	1,208	863
203 THE MED COLL OF PENNA	1,816	1,724	2,105	1,611	1,419	1,303	1,722	1,068
204 UNIV OF MO K C	1,807	1,740	1,511	1,731	1,077	974	913	1,172
205 SUNY COLLEGE FREDONIA	1,800	1,374	1,033	557	342	398	248	192
206 KENT STATE UNIVERSITY	1,780	1,504	1,206	922	784	810	661	557
207 WRIGHT STATE UNIV	1,755	966	846	422	1,424	853	705	343
208 NORTH TEXAS STATE UNIV	1,702	1,327	1,157	919	576	426	228	107
209 GEO PEABODY COL TEACHERS	1,654	1,597	1,494	2,110	1,557	1,414	1,281	2,040
210 CUNY GRAD SCH & UNIV CTR	1,626	1,380	2,619	2,301	1,522	1,201	2,124	1,480
TOTAL 1ST 210 INSTS.	3,952,167	3,623,570	3,294,415	2,919,132	2,647,349	2,433,950	2,213,309	1,964,434
211 NORTHERN ILLINOIS UNIV	1,563I	1,434	1,429	1,175	1,053I	966	1,136	1,118
212 MEHARRY MEDICAL COLLEGE	1,557	990	1,252	1,808I	1,204	990	925	1,665I
213 UNIV OF MASS BOSTON	1,510	148	181	172E	561	108	135	131E
214 THE UNIV OF ALABAMA	1,483	1,159	1,091	1,179	1,142	875	764	814
215 PORTLAND STATE UNIV	1,482	862	759	449E	1,019	549	509	281E
216 NC AG & TECH STATE UNIV	1,470	1,504	1,830	1,419	1,317	1,457	1,685	1,335
217 SAN JOSE ST UNIV	1,459	1,133	737	616	1,091	787	485	501
218 UNIV OF SOUTH DAKOTA	1,397	1,380	980	1,025	573	619	525	552
219 OHIO UNIVERSITY	1,370	1,517	1,212	967	1,127	982	907	656
220 SUNY COLLEGE BROCKPORT	1,349	1,352	1,539	2,090	702	667	1,069	1,366
TOTAL 1ST 220 INSTS.	3,966,807	3,635,049	3,305,425	2,930,032	2,657,138	2,441,950	2,221,449	1,972,853
221 BOWLING GREEN STATE UNIV	1,342	1,124	1,527	1,091	833	727	813	701
222 WESLEYAN UNIVERSITY	1,305	1,158	1,042	920	877	729	707	575
223 SOUTHERN UNIV	1,257	883	657I	552I	1,257	883	657I	552I
224 N J INST OF TECHNOLOGY	1,227	920	889	298	891	519	164	104
225 UNIV OF TEXAS AT EL PASO	1,169	955	738	764	842	714	580	581
226 S DAK SCH MINES & TECH	1,147I	1,052	884	1,075	697I	639	654	744
227 U PUERTO RICO RIO PIEDRAS	1,129	1,042	857	972	319	365	210	163
228 UNIVERSITY OF AKRON	1,127	927	707	549	682	589	424	359
229 CUNY QUEENS COLLEGE	1,121	984	809	1,029	780	719	536	765
230 PRAIRIE VIEW A & M UNIV	1,099	842I	825	901	1,000	783I	768	651
TOTAL 1ST 230 INSTS.	3,978,730	3,644,936	3,314,360	2,937,372	2,665,316	2,448,617	2,226,962	1,977,462
231 CREIGHTON UNIVERSITY	1,086	1,261	1,085	762	806	1,023	827	578
232 UNIV OF SOUTH ALABAMA	1,075	1,294	3,195	1,761	621	935	2,485	1,239
233 MONT COL MINRL SCI & TECH	1,073	899	482	444	1,014	755	319	266
234 GEORGIA STATE UNIV	1,066	1,057	828	560	428	591	549	289
235 NOVA UNIVERSITY	1,061	856	1,353	1,272	765	637	760	932
236 UNIVERSITY OF LOWELL	1,060	794	482	374	791	538	205	347
237 ALABAMA A & M UNIV	1,060	1,467	2,821	896	693	1,194	1,900	640
238 UNIV OF STHRN MISSISSIPPI	1,037	1,019	658	634	627	475	450	423
239 NEW YORK INST TECH	1,035	730	619	207	280	190	38	28
240 CLARK UNIVERSITY	1,023E	793	610	403	902	558	449	330
TOTAL 1ST 240 INSTS.	3,989,306	3,655,106	3,326,493	2,944,685	2,672,243	2,455,513	2,234,944	1,982,534
241 TEXAS A & I UNIVERSITY	1,018	705	712	825	251	56	103	91
242 CUNY BROOKLYN COLLEGE	1,016	1,047	1,073	395I	666	697	817	310I
243 OAKLAND UNIVERSITY	969	742	638	547	825	619	621	460E
244 WENTWORTH INSTITUTE	960	932	1,118	1,222	863	831	1,015	1,139
245 NORTHERN ARIZONA UNIV	956	888	445	444	308	465	109	85
246 ROCHESTER INST TECHNOLOGY	932	884	788	1,014	87	114	154	230
247 SUNY COLLEGE BUFFALO	925	943	886	716	870	897	731	478
248 UNIVERSITY OF THE PACIFIC	921	802	1,702	878I	636	602	1,390	354I
249 WICHITA STATE UNIVERSITY	920	791	929	868	301	326	400	348
250 MARQUETTE UNIVERSITY	914	1,064	869	718	526	758	669	475
TOTAL 1ST 250 INSTS.	3,998,837	3,663,904	3,335,653	2,952,312	2,677,576	2,460,878	2,240,953	1,986,504

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
251 FORDHAM UNIVERSITY	904I	829	1,087	941	744I	683	888	468
252 US NAVAL ACADEMY	903	813	756	676	901	813	756	676
253 MEMPHIS STATE UNIVERSITY	881	694	674	238	249	218	270	88
254 CALIF STATE UNIV LA	860	899	918	942	746	797	819	750
255 TUSKEGEE INSTITUTE	837	1,299I	1,092	1,129	833	1,016I	1,026	968E
256 SUNY COLLEGE NEW PALTZ	831	15	36	18	393	4	5	16
257 UNIVERSITY OF GUAM	826	707	129I	108I	438	353	74I	58I
258 U OF MD BALTIMORE COUNTY	821	853	656	435	616	725	478	341
259 US AIR FORCE ACADEMY	799	737	839	1,244	799	737	839	1,244
260 TEXAS WOMANS UNIVERSITY	793	820	872	803	49	41	212	199
TOTAL 1ST 260 INSTS.	4,007,292	3,671,570	3,342,712	2,958,846	2,683,344	2,466,265	2,246,320	1,991,312
261 UNIVERSITY OF SANTA CLARA	780	974	763	686	767	912	737	602
262 KENTUCKY STATE UNIV	772	654	540	527	772	654	540	522
263 UNIVERSITY OF TOLEDO	771	617	615	471	316	270	337	251
264 COLLEGE OF WILLIAM & MARY	757	1,191	792	804	729	693	678	696
265 UNIV OF TEX AT ARLINGTON	744	593	1,386	745	303	314	483	134
266 EMMANUEL COLLEGE	726	470	446	409	723	470	446	409
267 MIAMI UNIVERSITY	701	600	547	545	447	375	282	327
268 SUNY COLLEGE PLATTSBURGH	700I	609	153	199	356I	324	74	57
269 STEPHEN F AUSTIN ST UNIV	696	218	701	688	374	48	239	289
270 VIRGINIA STATE COLLEGE	679	1,208	1,776	869	679	1,208	1,776	869
TOTAL 1ST 270 INSTS.	4,014,618	3,678,704	3,350,431	2,964,789	2,688,810	2,471,533	2,251,912	1,995,468
271 U HLTH SCI/CHCGO MED SCH	668	701	665	992	424	441	401	593
272 IDAHO STATE UNIVERSITY	661	530	255	579	523	437	163	499
273 BAYLOR UNIVERSITY	658	427	295	398	114	101	53	126
274 PAN AMERICAN UNIV	639	620	534	363	608	587	498	363
275 UNIV OF NEVADA LAS VEGAS	639	1,448	637	213	276	0	140	112
276 UNIV OF MO ST LOUIS	637	533	466	880	387	254	215	254
277 UNIV OF SAN FRANCISCO	634	572	646	1,041	529	431	537E	865E
278 SOUTH CAROLINA ST COLLEGE	632I	585	403	370	620I	585	398	370
279 EASTERN NEW MEXICO UNIV	625	391	308	181	337	256	233	162
280 LOUISIANA TECH UNIV	619	636	754	406	524	445	240	193
TOTAL 1ST 280 INSTS.	4,021,030	3,685,147	3,355,394	2,970,212	2,693,152	2,475,070	2,254,790	1,999,005
281 AMHERST COLLEGE	614	563	593	639	531	517	557	609
282 EAST CAROLINA UNIVERSITY	609	544	540	576	209	144	121	205
283 FLORIDA INST OF TECH	609	707	639	555	293	385	344	324
284 COLUMBIA UNIV TCHRS COL	600	549	614	515	340	236	224	333
285 UNION COLLEGE	596	268E	236	398	207	136	104	77
286 ALCORN STATE UNIV	596	705	638	411	573	705	638	411
287 EDINBORO STATE COLLEGE	589I	512	419I	352	0I	0	168I	132
288 WESTERN WASHINGTON UNIV	571	556	532	535	440	331	307	326
289 ATLANTA UNIVERSITY	562	363	443	124	476	319	301	93E
290 MANHATTAN COLLEGE	553	489	249	253	409	343	249	253
TOTAL 1ST 290 INSTS.	4,026,929	3,690,403	3,360,297	2,974,570	2,696,630	2,478,186	2,257,803	2,001,768
291 INST TEXTILE TECHNOLOGY	550	550	550	480	0	0	0	0
292 EAST TEXAS STATE UNIV	539	611	466	318	45	46	14	20
293 UNIVERSITY OF TULSA	534	677	759	498	176	183	177	153
294 REGIS COLLEGE	532	423	381	295	532	340	381	295
295 U OF MD EASTERN SHORE	520	750	536	301	520	750	536	301
296 SAN FRANCISCO ST UNIV	505	291	156	181	504	280	153	145
297 S ILLINCIS U EDWARDSVILLE	500	432	801	954	160	158	200	253
298 CLAREMONT GRAD SCHOOL	497	414	671	127I	321	228	402	102I
299 UNIV TENN NASHVILLE	493	566	580	359	331	389	329	159
300 TENN TECHNOLOGICAL UNIV	480	620	464	415	191	262	275	298
TOTAL 1ST 300 INSTS.	4,032,079	3,695,737	3,365,661	2,978,498	2,699,410	2,480,822	2,260,270	2,003,494

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
301 CALIF STATE UNIV LONG BCH	475	614	325	405	264	417	220	285
302 SOUTHWEST TEXAS ST UNIV	472	658	94	89	186	494	0	2
303 ALFRED UNIVERSITY	468	262	124	67	180	30	5	25
304 THE WRIGHT INSTITUTE	465I	427	458I	413	0I	0	232I	207
305 CLEVELAND STATE UNIV	463	301	331	332	181	103	214	159
306 NTHEST LOUISIANA UNIV	455	273	260	122	97	113	196	112
307 CAL POLY ST U SN LUIS OB	449	118	65	95	433	68	21	53
308 WESTERN ILLINOIS UNIV	420	146	284	168	119	14	251	46
309 FLORIDA ATLANTIC UNIV	398	312I	306	456	206	312I	306	456
310 WESTERN MICHIGAN UNIV	397	224	471	886	221	123	251	655
TOTAL 1ST 310 INSTS.	4,036,541	3,699,072	3,368,379	2,981,531	2,701,297	2,482,496	2,261,966	2,005,494
311 OCCIDENTAL COLLEGE	397E	397	267	127	56E	96	96	35
312 CHICAGO COL OF OSTEO MED	388	279	273	119	32	22	27	0
313 FAIRLEIGH DICKINSON UNIV	386	383	454	489	116	128	239	95
314 CLARION STATE COLLEGE	380	337	496	473	6	5	85	81
315 JACKSON STATE UNIVERSITY	378	430	540	240	378	404	540	225
316 HUMBOLDT STATE UNIVERSITY	374	318	312	363	303	240	266	322
317 NEW SCH FOR SOC RESEARCH	362	497	682I	614E	334	375	152I	136E
318 CUNY BERNARD BARUCH COL	356	217	169	0	260	117	103	0
319 WILLIAMS COLLEGE	354	277	318	410	247	168	152	253
320 REED COLLEGE	350	418	398	365	327	362	241	279
TOTAL 1ST 320 INSTS.	4,040,266	3,702,625	3,372,288	2,984,731	2,703,356	2,484,373	2,263,867	2,006,920
321 UNIVERSITY OF DETROIT	348	346	310	208	138	123	90	57
322 XAVIER UNIVERSITY	347	589	475	100	95	279	225	6
323 POMONA COLLEGE	343	319	443	414	303	278	384	360
324 TRINITY UNIVERSITY	342	1,285E	1,169	1,154	155	725E	732	827
325 COL VIRGIN ISLAND	339	111I	166I	158	260	7I	10I	10
326 UNIV.OF WIS SUPERIOR	328	233	70	37	194	133	0	0
327 CALIF STATE UNIV CHICO	323	242	145	576	77	173	107	377
328 CUNY HUNTER COLLEGE	322	424	424	159	281	398	398	118
329 ADELPHI UNIV	319	543	585	1,884	232	433	287	1,568
330 SMITH COLLEGE	309	207E	207	144	279	0	155	120
TOTAL 1ST 330 INSTS.	4,043,586	3,706,924	3,376,282	2,989,565	2,705,370	2,486,922	2,266,255	2,010,363
331 ROOSEVELT UNIVERSITY	304	258	185	176	177	71	19	29
332 SWARTHMORE COLLEGE	303	258	243	203I	269	241	233	203I
333 INDIANA STATE UNIVERSITY	300	313	394	327	64	131	178	240
334 MORGAN STATE UNIV	298	77	0	0	298	77	0	0
335 CENTRAL MICHIGAN UNIV	296	250	180	153	30	42	1	6
336 SUNY COLLEGE OSWEGO	292	551	652	727	218	285	160	153
337 DUQUESNE UNIVERSITY	281	292	325	214	270	278	298	180
338 WELLESLEY COLLEGE	278	239	129	176	218	155	66	127
339 SOUTHWEST MISSOURI ST U	277	22	9	14	1	22	0	12
340 UNIV OF WISC-STOUT	266	225	277	213	197	179	190	137
TOTAL 1ST 340 INSTS.	4,046,481	3,709,409	3,378,676	2,991,768	2,707,112	2,488,403	2,267,400	2,011,450
341 DENISON UNIVERSITY	265	181	180	128	101	43	41	33
342 CUNY YORK COLLEGE	264I	244	394	184	219I	207	221	116
343 US MILITARY ACADEMY	262I	243	298	216	32I	30	298	216
344 NORFOLK STATE COLLEGE	259	161	181	123	254	161	181	122
345 VILLANOVA UNIVERSITY	255	222	215	222	175	149	124	135
346 WEST GEORGIA COLLEGE	252	283	220	163	173	233	15	7
347 LAMAR UNIVERSITY	251	432	193	252	129	222	79	66
348 TEXAS SOUTHERN UNIV	251	233	203	173I	199	183	69	44I
349 BRYN MAWR COLLEGE	250	175	268	320	250	175	248	294
350 FRANKLIN & MARSHALL COL	247	264	89	C	151	186	71	C
TOTAL 1ST 350 INSTS.	4,049,037	3,711,847	3,380,917	2,993,708	2,708,795	2,489,992	2,268,747	2,012,634

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
351 FURMAN UNIVERSITY	243	161	80	50	34	50	42	24
352 ILLINOIS STATE UNIVERSITY	239	148	106	82	184	136	92	60
353 WSTRN KENTUCKY UNIVERSITY	237	456	553	684	71	292	283	359
354 BOWDOIN COLLEGE	233	326	270	291	58	118	78	135
355 SETON HALL UNIVERSITY	231I	212	225	230	82I	75	70	60
356 MILWAUKEE SCHOOL OF ENGRG	229I	241	196	172I	0I	0	0	23I
357 BALL STATE UNIVERSITY	228	176	207	128	148	75	76	62
358 HAVERFORD COLLEGE	227	278	367	392I	159	227	330	319I
359 WEST TEXAS STATE UNIV	227	206	216	267	19	17	45	37
360 SAM HOUSTON STATE UNIV	226	265	308	299	80	84	149	37
TOTAL 1ST 360 INSTS.	4,051,357	3,714,316	3,383,445	2,996,303	2,709,630	2,491,066	2,269,912	2,013,750
361 U OF WIS GREEN BAY	219	228	148	222	109	87	54	83
362 BUCKNELL UNIVERSITY	217	265	204	223	157	213	140	121
363 SYRACUSE UNIV UTICA COLL	217	127	130	86	210	127	130	80
364 MCNEESE STATE UNIV	212	336	127	109	210	280	96	53
365 UNIV OF N C AT CHARLOTTE	211	306	209	156	93	246	140	41
366 GEORGE MASON UNIV	210	19	20	94	104	5	7	68
367 GOVERNORS STATE UNIV	207	49	23	25	149	20	12	18
368 STHEASTRN MASS UNIVERSITY	203	204	152	80	166	201	142	71
369 CALIF ST UNIV FULLERTON	194	112	60	96	104	72	45	70
370 DRAKE UNIVERSITY	192	262	425	397	47	126	267	216
TOTAL 1ST 370 INSTS.	4,053,439	3,716,224	3,384,943	2,997,791	2,710,979	2,492,443	2,270,945	2,014,571
371 KIRKSVILLE COL OSTEO MED	191	164	196	312	72	20	6	0
372 UNIV OF WIS LA CROSSE	191	226	166	105	26	120	87	13
373 NEW MEXICO HIGHLANDS UNIV	186I	162	190	12	0I	0	162	12
374 NORTH CAROLINA CEN UNIV	180	153	175	147	129	149	172	140
375 HOFSTRA UNIVERSITY	172	35	102	94	154	34	99	87
376 UNIV OF DIST OF COLUMBIA	171	270	246	206	171	245	238	206
377 WEBB INST OF NAVAL ARCH	168	269	279	208	120	207	223	163
378 GRAMBLING COLLEGE	165I	153I	229	470	137I	129I	195	425
379 LONG ISLAND UNIVERSITY	165	138	109	412I	73	50	52	308I
380 CENTRAL WASHINGTON UNIV	162	42I	41	48	93	39I	38	39
TOTAL 1ST 380 INSTS.	4,055,190	3,717,836	3,386,676	2,999,805	2,711,954	2,493,436	2,272,217	2,015,964
381 EASTERN WASHINGTON UNIV	160	131	105	59	64	65	17	3
382 OBERLIN COLLEGE	158	167	188	179	102	98	77	114
383 ATHENS STATE COLLEGE	155	114	74	148	155	114	74	148
384 BARNARD COLLEGE	154	124	119	87	101	30	24	27
385 BELOIT COLLEGE	154	226	253	136	64	161	183	39
386 MOUNT HOLYOKE COLLEGE	147	157	223	219	68	77	100	108
387 ARKANSAS STATE UNIV	146	21	94	138	78	21	30	46
388 FAIRFIELD UNIVERSITY	145	348	438	547	23	248	291	354
389 DE PAUL UNIVERSITY	144	199	229	202	106	128	128	111
390 CALIF ST UNIV HAYWARD	142	218	91	114	118	200	84	107
TOTAL 1ST 390 INSTS.	4,056,695	3,719,541	3,388,490	3,001,634	2,712,833	2,494,578	2,273,225	2,017,021
391 THE HARTFORD GRADUATE CTR	141	131I	110	39	0	15I	15	29
392 FISK UNIVERSITY	140	194	253	111I	140	179	243	41
393 PHILA COL PHARMACY & SCI	136	175	213	170	17	17	111	78
394 VASSAR COLLEGE	132	66	75	69	74	31	23	34
395 CALIF ST COLL STANISLAUS	129	7	51	46	107	0	33	26
396 SUL ROSS STATE UNIV	128	87	76	37	30	18	11	15
397 UNIV OF N C AT GREENSBORO	128	506	164	209	72	277	23	23
398 CONNECTICUT COLLEGE	127	135	95	78	79	65	41	70
399 MURRAY STATE UNIVERSITY	126	164	0	0	55	77	0	0
400 ABILENE CHRISTIAN UNIV	124	121	131	138	8	15	50	22
TOTAL 1ST 400 INSTS.	4,058,006	3,721,127	3,389,658	3,002,531	2,713,415	2,495,272	2,273,775	2,017,322

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
401 U OF WIS PARKSIDE	118	113	152	108	78	75	105	90
402 GEORGIA SOUTHERN COLLEGE	112	86	112	72	62	34	38	39
403 WALLA WALLA COLLEGE	112	69	44	0	98	55	22	0
404 ITHACA COLLEGE	111	135	93	93I	43	78	70	50I
405 UNIV OF ALBUQUERQUE	111	101	116	106	111	101	116	106
406 KUTZTOWN STATE COLLEGE	110	4	2	0	50	0	2	0
407 LINCOLN UNIVERSITY	103	147	100	88	103	147	100	88
408 ST CLOUD STATE UNIVERSITY	102	98	112	33	1	5	27	4
409 INDIANA UNIV NORTHWEST	102	1,078	4,104	4,847	80	915	3,996	4,845
410 CALIF STATE UNIV FRESNO	101	239	207	644I	34	92	80	472I
TOTAL 1ST 410 INSTS.	4,059,088	3,723,197	3,394,700	3,008,522	2,714,075	2,496,774	2,278,331	2,023,016
411 UNIV OF WIS STEVNS POINT	100	0	11E	9	17	0	0E	0
412 ST LOUIS COMMUNITY COL	97	172	131	50	97	172	124	49
413 SIMMONS COLLEGE	97I	82	58	49	71I	67	35	37
414 NORTHEAST MISSOURI ST UN	97	34E	34	103	64	0	34	9
415 PACIFIC UNIVERSITY	96	18	97I	105I	95	18	97I	105I
416 MASS COL OF PHARMACY	95	135	142	106	60	97	108	79
417 CUNY COL OF STATEN ISLAND	94I	82I	80	97	60I	55I	54	32
418 UNIV OF WIS RIVER FALLS	94	104	101	80	8	17	15	17
419 WSTRN STATE COL COLORADO	94	41	28	0	29	22	8	0
420 YOUNGSTOWN ST UNIVERSITY	94	163	94	107	36	140	52	46
TOTAL 1ST 420 INSTS.	4,060,046	3,724,028	3,395,476	3,009,228	2,714,612	2,497,362	2,278,858	2,023,390
421 BAYLOR COL OF DENTISTRY	94	85	71	111	43	47	27	54
422 ALBANY STATE COLLEGE	93	86I	128	135	87	84I	128	135
423 JOHN CARROLL UNIVERSITY	90	214	93	170	80	59	91	93
424 WINTHROP COLLEGE	89	88	0	0	59	0	0	0
425 ILLINOIS BENEDICTINE COL	86	110	119	105	46	39	53	50
426 U HOUSTON CLR LAKE CITY	86	0	0	0	55	0	0	0
427 TRINITY COLLEGE	86	39I	33	76I	0	20I	20	70I
428 CHICAGO STATE UNIVERSITY	85	177	137	74	85	92	137	74
429 HARVEY MUDD COLLEGE	85	111	177	336	64	23	41	32
430 ST MARYS UNIVERSITY	76	138	74	113	38	41	29	35
TOTAL 1ST 430 INSTS.	4,060,916	3,725,076	3,396,308	3,010,348	2,715,169	2,497,767	2,279,384	2,023,933
431 EMPORIA STATE UNIVERSITY	72	20	22	74I	65	1	2	41I
432 LOYOLA UNIV - NEW ORLEANS	71E	71	39	47	29E	29	14	14
433 WILLIAM PATERSON COLLEGE	70	2	2	51I	33	0	2	37I
434 COLLEGE OF WOOSTER	68	71	95	54	33	36	44	33
435 AUGSBURG COLLEGE	68	45	68	66	65	38	66	37
436 US COAST GUARD ACADEMY	65	50	50	75	60	50	50	75
437 LAWRENCE UNIVERSITY	62	47	55	67	14	24	38	54
438 SUNY COLLEGE ONEONTA	61	79	60	42	14	17	19	14
439 OKLA PANHANDLE STATE UNIV	61	36	103	119	0	0	0	0
440 UNIV OF WIS WHITEWATER	60	55	67	78	0	4	20	18
TOTAL 1ST 440 INSTS.	4,061,574	3,725,552	3,396,869	3,011,021	2,715,482	2,497,966	2,279,639	2,024,256
441 LINFIELD COLLEGE	60	90	80I	72	17	41	45I	46
442 KEARNEY STATE COLLEGE	58	44	48	115	12	11	18	81
443 NORTHERN MICHIGAN UNIV	57	153	91	33	23	81	28	3
444 LAKE FOREST COLLEGE	57	30	31	51	0	7	7	21
445 UNIV OF NORTHERN IOWA	55	34	69	187	35	7	47	162
446 PRATT INSTITUTE	55	52	0	0	42	40	0	0
447 VIRGINIA MILITARY INST	55	103	49	87	49	76	24	19
448 WASHINGTON & LEE UNIV	55	83	69	82	31	51	25	44
449 UNIV OF WIS OSHKOSH	55	124	125	107	27	78	69	30
450 DILLARD UNIVERSITY	54	67	68	59	54	67	68	59
TOTAL 1ST 450 INSTS.	4,062,135	3,726,332	3,397,499	3,011,814	2,715,772	2,498,425	2,279,970	2,024,721

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
451 ST MARYS COLLEGE	54	129I	108	154	41	32I	32	60
452 QUINNIPIAC COLLEGE	54	9	58	61	46	4	55	59
453 CARLETON COLLEGE	52	50	59	114	13	16	7	32
454 MONTCLAIR STATE COLLEGE	51	44	32	21	27.	43	32	21
455 MARSHALL UNIVERSITY	50	224	109	105	0	201	89	100
456 MOREHEAD STATE UNIVERSITY	50	32	274	18	32	16	187	18
457 DEPAUW UNIVERSITY	49I	52	78	81I	1I	1	12	36I
458 GRINNELL COLLEGE	48	55	93	76	11	22	36	21
459 ST JOSEPH'S COLLEGE	48	41	40	46	32	17	38	45
460 ROLLINS COLLEGE	47	15	86	144	0	0	54	59
TOTAL 1ST 460 INSTS.	4,062,638	3,726,983	3,398,436	3,012,634	2,715,975	2,458,777	2,280,512	2,025,172
461 CAL ST POLY U POMONA	47	42	29	57	45	17	6	12
462 JAMES MADISON UNIV	47	7	11	87	13	4	6	60
463 SEATTLE PACIFIC UNIV	47	9	17	5	42	6	13	0
464 COLORADO COLLEGE	46	143	115	109	27	77	105	98
465 WIDENER COLLEGE	46	88	59	57	21	10	23	36
466 TOWSON STATE UNIV	46	19	42	24	0	12	16	2
467 AIR FORCE INST TECH	45	50	50	25	45	50	50	25
468 UNIV OF PUGET SOUND	45	27	0	9	13	10	0	9
469 OREGON COLLEGE OF EDUC	44	54	909	698	44	54	801	504
470 UNIVERSITY OF PORTLAND	43	30	72	0	0	0	0	0
TOTAL 1ST 470 INSTS.	4,063,094	3,727,452	3,399,740	3,013,705	2,716,225	2,499,017	2,281,532	2,025,918
471 SEATTLE UNIVERSITY	43I	45	36	0	42I	40	28	0
472 SUNY COLLEGE GENESEO	40I	35	205	60	15I	14	181	24
473 EASTERN MICHIGAN UNIV	40	9	27	60	18	5	22	47
474 SUNY COLLEGE CORTLAND	39	66	169	189	9	43	136	152
475 KNOX COLLEGE	38	62	98	86	38	62	42	29
476 BRADLEY UNIVERSITY	38	86I	72	42	25	36I	36	10
477 UNIV OF WIS EAU CLAIRE	38	90	77	43	12	65	47	16
478 ANDREWS UNIVERSITY	38	72	68	72	12	23	32	34
479 MACALESTER COLLEGE	37	65	165	164	32	47	71	16
480 COL OF THE HOLY CROSS	37	50	40	38	27	45	20	6
TOTAL 1ST 480 INSTS.	4,063,482	3,728,032	3,400,697	3,014,459	2,716,455	2,499,397	2,282,147	2,026,252
481 AUGUSTANA COLLEGE	36	51	100	107	29	34	91	100
482 MIDDLEBURY COLLEGE	35	39	62	87	12	23	40	52
483 AUSTIN COLLEGE	34	32	78	55	6	6	36	18
484 CAL ST COL SAN BERNARDINO	33	39	44	35	15	39	38	28
485 ST OLAF COLLEGE	31	37	70	53	26	14	24	24
486 WEST CHESTER STATE COL	30I	26	16	148	5I	5	16	115
487 UNIVERSITY OF REDLANDS	30	81	60	71	30	47	26	41
488 EAST TENN ST UNIV	30	67	22	56	2	35	7	0
489 ST JOHNS UNIVERSITY	25	25	25	31	19	22	22	27
490 SOUTHERN OREGON ST COL	25	7	5	6	19	5	2	2
TOTAL 1ST 490 INSTS.	4,063,791	3,728,436	3,401,179	3,015,108	2,716,618	2,499,627	2,282,449	2,026,659
491 MOORHEAD STATE UNIVERSITY	24	14	5	44	17	13	4	5
492 HENDERSON STATE UNIV	22	8	49	58I	0	0	0	8I
493 COOPER UNION	21	37	56	49	2	36	46	45
494 TARLETON STATE UNIV	20	27	22	25	0	0	0	0
495 NORTHEASTERN ILL UNIV	20	28	10	5	7	14	0	0
496 PITTSBURGH STATE UNIV	20	28	33	26	0	11	23	11
497 NTHWSTRN ST UNIV LA	20	14	155	327	19	0	147	309
498 COL OF OSTEO MED & SURG	20	0	0	0	0	0	0	0
499 U TENNESSEE CHATTANOOGA	20	23	0	0	5	4	0	0
500 MONMOUTH COLLEGE	19	11	11	6	5	1	1	1
TOTAL 1ST 500 INSTS.	4,063,997	3,728,626	3,401,520	3,015,648	2,716,673	2,499,706	2,282,670	2,027,038

SEE FOOTNOTES AT END OF TABLE.

TABLE B-16. TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
501 MANKATO STATE UNIVERSITY	18	14	14	13	9	7	7	6
502 MISS VALLEY STATE UNIV	16	51	53	53I	16	51	53	53I
503 VALPARAISO UNIVERSITY	16	0	0	16	4	0	0	0
504 GOUCHER COLLEGE	15	49	151	69	9	17	85	13
505 UNIVERSITY OF MONTEVALLO	15	1	1	10	15	0	0	8
506 AUGUSTANA COLLEGE	15	11	2	2	0	1	0	0
507 BEMIDJI STATE COLLEGE	15	0	0	28	7	0	0	0
508 DELTA STATE UNIVERSITY	14	12	70	42	0	0	47	11
509 CALIFORNIA STATE COLLEGE	14	63	20	11	5	0	0	0
510 PACIFIC LUTHERAN UNIV	11	31	19	26	1	8	0	3
TOTAL 1ST 510 INSTS.	4,064,146	3,728,858	3,401,850	3,015,918	2,716,739	2,499,790	2,282,862	2,027,132
511 PROVIDENCE COLLEGE	10	8	17	33I	0	2	5	31I
512 ST JOSEPH COLLEGE	10	10	10	16	7	7	6	12
513 PACIFIC UNION COLLEGE	9	6	0	3	0	0	0	3
514 GRAND VALLEY STATE COL	9	95	94	77	9	95	94	77
515 LORAS COLLEGE	9I	10I	8	12	1I	1I	1	0
516 CONCORDIA COL MOORHEAD	8	35	0	1	8	35	0	1
517 NORTHWEST MISSOURI ST UN	6	12	21	62	0	6	11	10
518 CHAPMAN COLLEGE	5	7	2	6E	0	0	0	4
519 ST BONAVENTURE UNIVERSITY	4	12	16	44	0	8	9	41
520 SLIPPERY ROCK STATE COL	3	3	0	59	3	3	0	51
TOTAL 1ST 520 INSTS.	4,064,219	3,729,056	3,402,018	3,016,231	2,716,767	2,499,947	2,282,988	2,027,362
521 ANTIOCH COLLEGE	1	1,487I	1,250I	1,359E	0	1,183I	1,195I	1,183E
522 JOHN F KENNEDY UNIVERSITY	0	0	0	97	0	0	0	0
523 MILWAUKEE AREA TECH COL	0	133	164	149	0	0	37	5
524 US INTERNATIONAL UNIV	0	0E	0	26I	0	0E	0	20I
525 IMMACULATE HEART COLLEGE	0	4I	3	4	0	1I	1	1
526 BRIDGEWATER STATE COL	0	0	0	0	0	0	0	0
527 DREW POST-GRAD MED SCHOOL	0I	0I	0I	0	0I	0I	0I	0
528 OHIO DOMINICAN COLLEGE	0	4	1	2	0	4	0	0
529 NEW ENGLAND INSTITUTE	0	0	1,339	592	0	0	271	129
530 EAST STROUDSBURG ST COL	0E	0E	0	0	0	0E	0	0
TOTAL 1ST 530 INSTS.	4,064,220	3,730,684	3,404,775	3,018,460	2,716,767	2,501,135	2,284,492	2,028,700
531 UNIV OF WIS PLATTEVILLE	0	0	3E	2	0	0	1E	1
532 WAUKESHA CTY TECH INST	0	0I	0	51	0	0I	0	0
533 OLIVET NAZARENE COLLEGE	0	0	0	0	0	0	0	0
534 CENTRAL STATE UNIV	0	0	97	185	0	0	1	96
535 STETSON UNIVERSITY	0	0	4	20	0	0E	0	18
536 SUNY COLLEGE POTSDAM	0	0	28E	22	0	0	6E	5
537 MISS UNIV FOR WOMEN	0E	0	2	40I	0	0	0	0
538 HOLLINS COLLEGE	0	4	7	9	0	4	7	0
539 CANISIUS COLLEGE	0	0I	0	15	0	0I	0	5
TOTAL 1ST 539 INSTS.	4,064,220	3,730,688	3,404,916	3,018,804	2,716,767	2,501,139	2,284,507	2,028,825
TOTAL ALL OTHER INSTS.	0	0	4,278	4,621	0	0	3,272	3,318

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-17. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1977

DOCTORATE-GRANTING INSTITUTIONS
(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	3,987,110	2,668,865	354,700	12,734	186,896	135,549	506,865	121,501
1 UNIV OF WISCONSIN-MADISON	103,556	53,386	19,676	0	3,104	1,583	21,936	3,871
2 MASS INST OF TECHNOLOGY	102,045	85,066	449	599	3,350	5,122	1,234	6,225
3 U OF CAL SAN DIEGO	87,636	78,719	544	0	4,628E	0	3,745	0
4 UNIVERSITY OF MINNESOTA	82,679	48,409	13,654	101	3,117	1,962	11,504	3,932
5 UNIVERSITY OF MICHIGAN	79,922	50,908	760	0	2,928	4,264	16,491	4,571
6 UNIVERSITY OF WASHINGTON	77,757	66,066	3,911	730	1,999	1,810	185	3,056
7 STANFORD UNIVERSITY	77,019	71,115	112	0	1,815	61	3,288	628
8 HARVARD UNIVERSITY	73,301	55,485	84	119	5,086	2,900	4,642	4,985
9 COLUMBIA UNIV MAIN DIV	72,948	58,973	525	0	7,732	418	2,707	2,593
10 CORNELL UNIVERSITY	71,346	45,895	13,878	0	2,622	3,C94	3,989	1,868
TOTAL 1ST 10 INSTS.	828,209	614,022	53,593	1,549	36,381	21,214	69,721	31,729
11 UNIV OF PENNSYLVANIA	70,721	47,313	1,001	352	8,283	2,786	10,209	777
12 U OF CAL BERKELEY	70,148	50,197	1,094	0	3,928E	0	14,929	0
13 U OF CAL LOS ANGELES	69,277	55,956	503	0	6,644E	229E	5,945	0
14 JOHNS HOPKINS UNIVERSITY	61,858	50,445	1,877	286	2,325	872	0	6,053
15 UNIVERSITY OF CHICAGO	59,332	46,109	867	0	3,837	1,006	6,267	1,246
16 UNIV ILLINOIS URBANA	59,320	40,558	2,091	742	1,048	1,425	11,930	1,526
17 UNIVERSITY OF ROCHESTER	53,129	33,502	807	373	3,006	6,584	6,930	1,927
18 TEXAS A & M UNIVERSITY	51,810	21,757	22,287	0	2,674	3,273	1,339	480
19 UNIV OF TEXAS AT AUSTIN	49,699	30,118	5,720	53	1,635	746	8,622	2,805
20 U OF CAL SAN FRANCISCO	49,677	41,220	240	0	4,111E	737E	3,369	0
TOTAL 1ST 20 INSTS.	1,423,180	1,031,197	90,080	3,355	73,872	38,872	139,261	46,543
21 MICHIGAN STATE UNIVERSITY	48,058	22,948	8,797	500	1,987	1,514	1C,754	1,558
22 YALE UNIVERSITY	47,887	42,237	540	0	2,017	478	1,985	630
23 U OF CAL DAVIS	47,191	24,044	2,231	0	962E	1,796E	18,158	0
24 NEW YORK UNIVERSITY	45,789	36,922	598	116	3,998	2,080	318	1,757
25 OHIO STATE UNIVERSITY	45,367	24,559	8,895	0	1,870	2,175	5,005	2,863
26 PENNSYLVANIA STATE UNIV	44,566	25,787	2,419	0	882	3,320	12,060	98
27 PURDUE UNIV ALL CAMPUSES	42,733	25,866	5,637	55	873	2,478	7,824	0
28 UNIVERSITY OF FLORIDA	41,895	14,091	1,770	43	596	1,034	21,468	2,893
29 WASHINGTON UNIVERSITY	38,431	33,138	307	0	1,758	731	0	2,497
30 UNIVERSITY OF ARIZONA	36,430	19,632	9,704	53	1,099	1,440	3,261	1,241
TOTAL 1ST 30 INSTS.	1,861,527	1,300,421	130,978	4,122	89,914	55,918	220,094	60,080
31 UNIVERSITY OF COLORADO	35,449	27,362	644	104	2,040	681	2,977	1,641
32 UNIVERSITY OF GEORGIA	35,216	11,591	1,023	6	326	1,144	21,126	0
33 UNIVERSITY OF ALASKA	35,175	24,664	808	13	424	581	7,814	471
34 IOWA ST U OF SCI & TECH	35,034	10,539	10,444	846	182	1,376	11,288	359
35 CALIFORNIA INST OF TECH	33,866	29,090	281	24	3,609	182	494	I86
36 UNIV OF STHRN CALIFORNIA	32,656	28,319	213	267	2,210	1,647	0	0
37 UNIVERSITY OF MIAMI	32,455	24,815	104	111	1,545	1,261	3,568	1,051
38 UNIVERSITY OF UTAH	31,812	24,576	3,448	0	1,033	2,244	511	0
39 ROCKEFELLER UNIVERSITY	31,773	14,403	362	0	3,632	1,151	11,874	351
40 UNIV OF NC AT CHAPEL HILL	31,611	25,776	2,581	0	3,044	210	0	0
TOTAL 1ST 40 INSTS.	2,196,574	1,521,556	150,886	5,493	107,959	66,795	279,746	64,139
41 DUKE UNIVERSITY	30,352	27,127	329	32	1,626	597	317	324
42 COLORADO STATE UNIVERSITY	30,213	21,589	3,671	4	201	1,813	2,935	0
43 N C STATE UNIV AT RALEIGH	30,130	10,630	14,279	0	324	2,146	1,755	996
44 UNIVERSITY OF CONNECTICUT	29,528	15,588	1,069	31	1,462	676	9,959	743
45 OREGON STATE UNIVERSITY	29,195	15,670	8,449	107	858	1,333	84	2,694
46 UNIV OF HAWAII-MANOA	28,900	17,945	551	83	389	56	9,609	267
47 UNIV OF MISSOURI COLUMBIA	28,511	10,402	6,848	0	258	718	8,855	1,430
48 LOUISIANA ST UNIV SYSTEM	28,380	8,014	697	0	571	313	16,435	2,350
49 GEORGIA INSTITUTE OF TECH	27,782	15,198	614	247	314	2,957	7,873	579
50 CASE WESTERN RESERVE UNIV	27,484	19,713	220	8	3,139	1,033	2,526	845
TOTAL 1ST 50 INSTS.	2,487,049	1,683,432	187,613	6,005	117,101	78,437	340,094	74,367

SEE FOOTNOTES AT END OF TABLE.

TABLE B-17. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1977

DOCTORATE-GRANTING INSTITUTIONS

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 YESHIVA UNIVERSITY	27,205E	24,627E	403I	0I	2,175I	0I	0I	0I
52 UNIV OF MD COLLEGE PARK	26,637	15,877	6,201	209	0	781	3,569	0
53 NORTHWESTERN UNIVERSITY	26,378	20,988	197	0	1,741	322	1,535	1,595
54 RUTGERS THE STATE UNIV	26,234	11,517	5,622	210	381	629	7,668	207
55 U TEX CAN CTR MDA H & TI	25,858	15,732	0	0	950	0	8,760	416
56 UNIVERSITY OF IOWA	25,472	20,701	126	7	770	544	3,090	234
57 UNIVERSITY OF PITTSBURGH	23,958	18,286	200	19	1,311	372	3,527	243
58 UNIVERSITY OF CINCINNATI	23,573	10,140	15	6	968	982	5,643	5,819
59 PRINCETON UNIVERSITY	23,424	16,861	20	0	1,700	563	4,280	0
60 BAYLOR COLLEGE OF MED	23,355	21,063	43	0	1,953	158	0	138
TOTAL 1ST 60 INSTS.	2,739,143	1,859,224	200,440	6,456	129,050	82,788	378,166	83,019
61 UNIV OF NEBRASKA - LNCLN	23,198	6,397	11,877	65	110	354	4,239	156
62 VA POLYTECH INST & ST U	22,834	10,914	9,714	245	238	760	879	84
63 UNIV OF KENTUCKY ALL CAM	20,440	7,137	7,551I	0I	168I	505I	4,912I	167I
64 WASHINGTON STATE UNIV	20,108	5,808	11,948	86	440	1,802	0	24
65 WOODS HCLE OCNGRPHIC INST	20,073	17,392	47	0	449	572	824	789
66 UNIV ALABAMA BIRMINGHAM	19,701	17,327	638	100	650	495	491	0
67 UNIVERSITY OF VIRGINIA	19,323E	15,336E	55E	0E	708E	607E	2,376E	241E
68 CUNY MT SINAI SCH OF MED	19,308	16,036	46	0	1,064	112	1,113	937
69 CARNEGIE-MELLON UNIV	19,039	12,232	221	0	779	5,103	552	152
70 VANDERBILT UNIVERSITY	18,773	16,042	9	0	1,154	528	879	161
TOTAL 1ST 70 INSTS.	2,941,940	1,983,845	242,546	6,952	134,810	93,626	394,431	85,730
71 BOSTON UNIVERSITY	18,682	16,824	368	26	1,232	59	16	157
72 MISSISSIPPI STATE UNIV	18,439	5,257	7,203	488	38	219	708	4,526
73 U OF CAL RIVERSIDE	18,365	6,814	683	0	1,253	0	9,615	0
74 GEORGE WASHINGTON UNIV	18,330	16,844	48	5	915	385	123	10
75 UNIVERSITY OF KANSAS	18,134	12,499	1,082	34	492	157	3,742	128
76 SUNY AT BUFFALO	18,130	14,907	304	36	1,137	203	1,433	110
77 KANSAS ST UNIVERSITY	17,793	6,133	7,841	1	137	522	3,145	14
78 OKLAHOMA STATE UNIVERSITY	17,779	7,335	7,653	0	50	875	1,866	0
79 TEMPLE UNIVERSITY	17,415	12,873	337	187	715	82	2,402	819
80 U TEX HLTH SCI CTR DALLAS	16,755	13,383	337	16	1,736	820	119	344
TOTAL 1ST 80 INSTS.	3,121,762	2,096,714	268,402	7,745	142,515	96,948	417,600	91,838
81 FLORIDA STATE UNIVERSITY	16,220	8,606	1,614	0	268	269	5,463	0
82 AUBURN UNIVERSITY	15,919	5,642	6,196	1	0	0	3,180	900
83 UNIV OF MASS AT AMHERST	15,112	8,880	1,778	1	424	491	3,507	31
84 UNIVERSITY OF IDAHO	14,554	6,037	6,027	53	60	936	0	1,441
85 SUNY AT STONY BROOK	14,466	11,843	48	8	457	96	489	1,525
86 U OF CAL IRVINE	14,299	12,046	325	0	1,241E	315E	372	0
87 UTAH STATE UNIVERSITY	14,092	9,689	2,795	4	43	248	222	1,091
88 UNIVERSITY OF NEW MEXICO	13,397	9,449	1,983	0	397	779	661	128
89 UNIV OF VT & ST AGRIC COL	13,095	9,806	895	0	420	111	1,549	314
90 CLEMSON UNIVERSITY	12,782	4,365	362	48	217	241	7,549	0
TOTAL 1ST 90 INSTS.	3,265,698	2,183,077	290,425	7,860	146,042	100,434	440,592	97,268
91 NEW MEXICO STATE UNIV	12,740	11,210	473	16	70	566	244	161
92 EMORY UNIVERSITY	12,657	11,475	0	0	515	385	43	239
93 GEORGETOWN UNIVERSITY	12,644	6,117	0	4	1,267	1,282	964	3,010
94 WAYNE STATE UNIVERSITY	11,862	7,649	291	42	729	419	2,256	476
95 U TEX GALVESTON MED BRAN	11,858	7,219	2,136	0	1,702	463	0	338
96 VIRGINIA COMMONWLTH UNIV	11,793	9,473	31	0	793	508	861	127
97 BROWN UNIVERSITY	11,711	9,846	104	15	480	103	1,126	37
98 TULANE UNIVERSITY	11,655	7,493	236	1	1,250	733	1,060	882
99 WEST VIRGINIA UNIVERSITY	11,634	6,452	4,002	0	295	229	375	281
100 UNIV OF MD BALT PROF SCH	11,501	9,824	591	0	427	165	53	441
TOTAL 1ST 100 INSTS.	3,385,753	2,269,835	298,289	7,938	153,570	105,287	447,574	103,260
TOTAL ALL OTHER INSTS.	601,357	399,030	56,411	4,796	33,326	30,262	59,291	18,241

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-17. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1977

MASTER'S-GRANTING INSTITUTIONS
(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	53,349	31,067	6,947	426	3,611	3,021	6,666	1,611
1 CITY COLLEGE OF CUNY	3,424	2,526	5	0	105	276	0	512
2 FLORIDA TECH UNIV	2,105	482	292	0	17	50	1,264	0
3 UNIV OF WEST FLORIDA	2,070	587	869	16	31	45	521	1
4 SUNY COLLEGE FREDONIA	1,800	342	926	174	33	0	256	69
5 WRIGHT STATE UNIV	1,755	1,424	16	8	166	22	119	0
6 NC AG & TECH STATE UNIV	1,470	1,317	113	2	35	3	0	0
7 SAN JOSE ST UNIV	1,459	1,091	11	0	0	79	0	278
8 SUNY COLLEGE BROCKPORT	1,349	702	0	4	21	15	607	0
9 SOUTHERN UNIV	1,257	1,257	0	0	0	0	0	0
10 CUNY QUEENS COLLEGE	1,121	780	0	0	115	0	226	0
TOTAL 1ST 10 INSTS.	17,810	10,508	2,232	204	523	490	2,993	860
11 PRAIRIE VIEW A & M UNIV	1,099	1,000	62	0	37	0	0	0
12 MONT COL MINRL SCI & TECH	1,073	1,014	43	0	0	16	0	0
13 ALABAMA A & M UNIV	1,060	693	231	0	136	0	0	0
14 TEXAS A & I UNIVERSITY	1,018	251	548	0	111	108	0	0
15 CUNY BROOKLYN COLLEGE	1,016	666	0	0	93	0	257	0
16 ROCHESTER INST TECHNOLOGY	932	87	20	7	413	51	322	32
17 SUNY COLLEGE BUFFALO	925	870	11	5	0	32	0	7
18 CALIF STATE UNIV LA	860	746	52	0	3	10	10	39
19 TUSKEGEE INSTITUTE	837	833	0	0	0	0	4	0
20 SUNY COLLEGE NEW PALTZ	831	393	402	0	36	0	0	0
TOTAL 1ST 20 INSTS.	27,461	17,061	3,601	216	1,352	707	3,586	938
21 UNIVERSITY OF GUAM	826	438	59	0	0	0	329	0
22 SUNY COLLEGE PLATTSBURGH	700I	356I	0I	0I	244I	22I	0I	78I
23 VIRGINIA STATE COLLEGE	679	679	0	0	0	0	0	0
24 UNIV OF NEVADA LAS VEGAS	639	276	70	25	0	26	242	0
25 PAN AMERICAN UNIV	639	608	31	0	0	0	0	0
26 UNIV OF SAN FRANCISCO	634	529	13	0	61	9	22	0
27 EASTERN NEW MEXICO UNIV	625	337	117	0	0	58	23	90
28 EAST CAROLINA UNIVERSITY	609	209	351	0	35	14	0	0
29 EDINBORO STATE COLLEGE	589I	0I	218I	29I	53I	70I	176I	43I
30 WESTERN WASHINGTON UNIV	571	440	90	0	2	9	1	29
TOTAL 1ST 30 INSTS.	33,972	20,933	4,550	270	1,747	915	4,379	1,178
31 MANHATTAN COLLEGE	553	409	0	0	11	0	0	133
32 SAN FRANCISCO ST UNIV	505	504	0	0	1	0	0	0
33 S ILLINOIS U EDWARDSVILLE	500	160	80	16	17	23	194	10
34 UNIV TENN NASHVILLE	493	331	17	0	17	0	89	39
35 CALIF STATE UNIV LONG BCH	475	264	16	0	17	120	58	0
36 SOUTHWEST TEXAS ST UNIV	472	186	81	0	74	1	129	1
37 CAL POLY ST U SN LUIS OB	449	433	6	0	0	10	0	0
38 WESTERN ILLINOIS UNIV	420	119	166	0	73	12	50	0
39 FLORIDA ATLANTIC UNIV	398	206	192	0	0	0	0	0
40 OCCIDENTAL COLLEGE	397E	56E	0	0	74E	242E	25E	0
TOTAL 1ST 40 INSTS.	38,634	23,601	5,108	286	2,031	1,323	4,924	1,361
41 CLARION STATE COLLEGE	380	6	0	0	0	0	374	0
42 JACKSON STATE UNIVERSITY	378	378	0	0	0	0	0	0
43 HUMBOLDT STATE UNIVERSITY	374	303	38	4	3	23	0	3
44 CUNY BERNARD BARUCH COL	356	260	0	0	29	43	24	0
45 XAVIER UNIVERSITY	347	95	13	22	38	142	23	14
46 TRINITY UNIVERSITY	342	155	5	0	166	0	16	0
47 UNIV OF WIS SUPERIOR	328	194	73	0	0	0	53	8
48 CALIF STATE UNIV CHICO	323	77	12	1	0	230	3	0
49 CUNY HUNTER COLLEGE	322	281	0	0	41	0	0	0
50 ROOSEVELT UNIVERSITY	304	177	21	0	103	0	3	0
TOTAL 1ST 50 INSTS.	42,088	25,527	5,270	313	2,411	1,761	5,420	1,386
TOTAL ALL OTHER INSTS.	11,261	5,540	1,677	113	1,200	1,260	1,246	225

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-17. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS, FISCAL YEAR 1977

OTHER INSTITUTIONS
(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	23,761	16,835	608	240	1,230	579	4,150	119
1 FLORIDA A & M UNIVERSITY	2,757	2,717	30	10	0	0	0	0
2 U OF ARKANSAS PINE BLUFF	2,472	1,244	30	0	104	26	1,068	0
3 GALLAUDET COLLEGE	2,060	456	0	0	0	0	1,604	0
4 UNIV OF MASS BOSTON	1,510	561	451	147	307	24	20	0
5 NEW YORK INST TECH	1,035	280	0	0	0	287	468	0
6 WENTWORTH INSTITUTE	960	863	0	0	0	50	47	0
7 US NAVAL ACADEMY	903	901	0	0	2	0	0	0
8 US AIR FORCE ACADEMY	799	799	0	0	0	0	0	0
9 KENTUCKY STATE UNIV	772	772	0	0	0	0	0	0
10 EMMANUEL COLLEGE	726	723	0	0	3	0	0	0
TOTAL 1ST 10 INSTS.	13,994	9,316	511	157	416	387	3,207	0
11 SOUTH CAROLINA ST COLLEGE	632I	620I	2I	1I	2I	1I	6I	0I
12 AMHERST COLLEGE	614	531	0	0	83	0	0	0
13 ALCORN STATE UNIV	596	573	0	0	0	0	23	0
14 REGIS COLLEGE	532	532	0	0	0	0	0	0
15 U OF MD EASTERN SHORE	520	520	0	0	0	0	0	0
16 WILLIAMS COLLEGE	354	247	0	0	107	0	0	0
17 REED COLLEGE	350	327	0	0	23	0	0	0
18 POMONA COLLEGE	343	303	3	0	19	0	18	0
19 COL VIRGIN ISLAND	339	260	0	32	0	0	44	3
20 SWARTHMORE COLLEGE	303	269	0	0	23	0	11	0
TOTAL 1ST 20 INSTS.	18,577	13,498	516	190	673	388	3,309	3
21 DENISON UNIVERSITY	265	101	0	0	140	0	23	1
22 CUNY YORK COLLEGE	264I	219I	0I	27I	12I	0I	6I	0I
23 US MILITARY ACADEMY	262I	32I	0I	0I	0I	0I	230I	0I
24 NORFOLK STATE COLLEGE	259	254	0	0	0	0	5	0
25 FRANKLIN & MARSHALL COL	247	151	0	2	20	12	57	5
26 BOWDOIN COLLEGE	233	58	0	0	73	47	54	1
27 HAVERFORD COLLEGE	227	159	0	0	8	0	60	0
28 SYRACUSE UNIV UTICA COLL	217	210	0	0	0	0	7	0
29 WEBB INST OF NAVAL ARCH	168	120	0	0	2	46	0	0
30 GRAMBLING COLLEGE	165I	137I	5I	1I	5I	1I	14I	2I
TOTAL 1ST 30 INSTS.	20,884	14,939	521	220	933	494	3,765	12
31 ATHENS STATE COLLEGE	155	155	0	0	0	0	0	0
32 BELOIT COLLEGE	154	64	6	0	64	0	20	0
33 BARNARD COLLEGE	154	101	0	0	53	0	0	0
34 FAIRFIELD UNIVERSITY	145	23	0	1	0	0	121	0
35 CALIF ST COLL STANISLAUS	129	107	0	0	0	0	0	22
36 U OF WIS PARKSIDE	118	78	0	0	0	5	31	4
37 UNIV OF ALBUQUERQUE	111	111	0	0	0	0	0	0
38 ITHACA COLLEGE	111	43	0	0	18	1	49	0
39 LINCOLN UNIVERSITY	103	103	0	0	0	0	0	0
40 INDIANA UNIV NORTHWEST	102	80	0	9	0	0	13	0
TOTAL 1ST 40 INSTS.	22,166	15,804	527	230	1,068	500	3,999	38
41 SIMMONS COLLEGE	97I	71I	5I	0I	7I	0I	14I	0I
42 ST LOUIS COMMUNITY COL	97	97	0	0	0	0	0	0
43 PACIFIC UNIVERSITY	96	95	0	0	1	0	0	0
44 ALBANY STATE COLLEGE	93	87	0	0	0	6	0	0
45 ILLINOIS BENEDICTINE COL	86	46	0	0	0	1	39	0
46 AUGSBURG COLLEGE	68	65	0	0	3	0	0	0
47 COLLEGE OF WOOSTER	68	33	0	0	0	20	15	0
48 US COAST GUARD ACADEMY	65	60	0	0	0	0	5	0
49 LAWRENCE UNIVERSITY	62	14	0	0	48	0	0	0
50 OKLA PANHANDLE STATE UNIV	61	0	0	0	0	28	0	33
TOTAL 1ST 50 INSTS.	22,959	16,372	532	230	1,127	555	4,072	71
TOTAL ALL OTHER INSTS.	802	463	76	10	103	24	78	48

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-18. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	4,064,220	2,716,767	362,255	13,400	191,737	139,149	517,681	123,231
1 UNIV OF WISCONSIN-MADISON	103,556	53,386	19,676	0	3,104	1,583	21,936	3,871
2 MASS INST OF TECHNOLOGY	102,045	85,066	449	599	3,350	5,122	1,234	6,225
3 U OF CAL SAN DIEGO	87,636	78,719	544	0	4,628E	0	3,745	0
4 UNIVERSITY OF MINNESOTA	82,679	48,409	13,654	101	3,117	1,962	11,504	3,932
5 UNIVERSITY OF MICHIGAN	79,922	50,908	760	0	2,928	4,264	16,491	4,571
6 UNIVERSITY OF WASHINGTON	77,757	66,066	3,911	730	1,999	1,810	185	3,056
7 STANFORD UNIVERSITY	77,019	71,115	112	0	1,815	61	3,288	628
8 HARVARD UNIVERSITY	73,301	55,485	84	119	5,086	2,900	4,642	4,985
9 COLUMBIA UNIV MAIN DIV	72,948	58,973	525	0	7,732	418	2,707	2,593
10 CORNELL UNIVERSITY	71,346	45,895	13,878	0	2,622	3,094	3,989	1,868
TOTAL 1ST 10 INSTS.	828,209	614,022	53,593	1,549	36,381	21,214	69,721	31,729
11 UNIV OF PENNSYLVANIA	70,721	47,313	1,001	352	8,283	2,786	10,209	777
12 U OF CAL BERKELEY	70,148	50,197	1,094	0	3,928E	0	14,929	0
13 U OF CAL LOS ANGELES	69,277	55,956	503	0	6,644E	229E	5,945	0
14 JOHNS HOPKINS UNIVERSITY	61,858	50,445	1,877	286	2,325	872	0	6,053
15 UNIVERSITY OF CHICAGO	59,332	46,109	867	0	3,837	1,006	6,267	1,246
16 UNIV ILLINOIS URBANA	59,320	40,558	2,091	742	1,048	1,425	11,930	1,526
17 UNIVERSITY OF ROCHESTER	53,129	33,502	807	373	3,006	6,584	6,930	1,927
18 TEXAS A & M UNIVERSITY	51,810	21,757	22,287	0	2,674	3,273	1,339	480
19 UNIV OF TEXAS AT AUSTIN	49,699	30,118	5,720	53	1,635	746	8,622	2,805
20 U OF CAL SAN FRANCISCO	49,677	41,220	240	0	4,111E	737E	3,369	0
TOTAL 1ST 20 INSTS.	1,423,180	1,031,197	90,080	3,355	73,872	38,872	139,261	46,543
21 MICHIGAN STATE UNIVERSITY	48,058	22,948	8,797	500	1,987	1,514	10,754	1,558
22 YALE UNIVERSITY	47,887	42,237	540	0	2,017	478	1,985	630
23 U OF CAL DAVIS	47,191	24,044	2,231	0	962E	1,796E	18,158	0
24 NEW YORK UNIVERSITY	45,789	36,922	598	116	3,998	2,080	318	1,757
25 OHIO STATE UNIVERSITY	45,367	24,559	8,895	0	1,870	2,175	5,005	2,863
26 PENNSYLVANIA STATE UNIV	44,566	25,787	2,419	0	882	3,320	12,060	98
27 PURDUE UNIV ALL CAMPUSES	42,733	25,866	5,637	55	873	2,478	7,824	0
28 UNIVERSITY OF FLORIDA	41,895	14,091	1,770	43	596	1,034	21,468	2,893
29 WASHINGTON UNIVERSITY	38,431	33,138	307	0	1,758	731	0	2,497
30 UNIVERSITY OF ARIZONA	36,430	19,632	9,704	53	1,099	1,440	3,261	1,241
TOTAL 1ST 30 INSTS.	1,861,527	1,300,421	130,978	4,122	89,914	55,518	220,094	60,080
31 UNIVERSITY OF COLORADO	35,449	27,362	644	104	2,040	681	2,977	1,641
32 UNIVERSITY OF GEORGIA	35,216	11,591	1,023	6	326	1,144	21,126	0
33 UNIVERSITY OF ALASKA	35,175	24,664	808	13	424	981	7,814	471
34 IOWA ST U OF SCI & TECH	35,034	10,539	10,444	846	182	1,376	11,288	359
35 CALIFORNIA INST OF TECH	33,866	29,090	281	24	3,609	182	494	186
36 UNIV OF STHRN CALIFORNIA	32,656	28,319	213	267	2,210	1,647	0	0
37 UNIVERSITY OF MIAMI	32,455	24,815	104	111	1,545	1,261	3,568	1,051
38 UNIVERSITY OF UTAH	31,812	24,576	3,448	0	1,033	2,244	511	0
39 ROCKEFELLER UNIVERSITY	31,773	14,403	362	0	3,632	1,151	11,874	351
40 UNIV OF NC AT CHAPEL HILL	31,611	25,776	2,581	0	3,044	210	0	0
TOTAL 1ST 40 INSTS.	2,196,574	1,521,556	150,886	5,493	107,959	66,795	279,746	64,139
41 DUKE UNIVERSITY	30,352	27,127	329	32	1,626	597	317	324
42 COLORADO STATE UNIVERSITY	30,213	21,589	3,671	4	201	1,813	2,935	0
43 N C STATE UNIV AT RALEIGH	30,130	10,630	14,279	0	324	2,146	1,755	996
44 UNIVERSITY OF CONNECTICUT	29,528	15,588	1,069	31	1,462	676	9,959	743
45 OREGON STATE UNIVERSITY	29,195	15,670	8,449	107	858	1,333	84	2,694
46 UNIV OF HAWAII-MANOA	28,900	17,945	551	83	389	56	9,609	267
47 UNIV OF MISSOURI COLUMBIA	28,511	10,402	6,848	0	258	718	8,855	1,430
48 LOUISIANA ST UNIV SYSTEM	28,380	8,014	697	0	571	313	16,435	2,350
49 GEORGIA INSTITUTE OF TECH	27,782	15,198	614	247	314	2,957	7,873	579
50 CASE WESTERN RESERVE UNIV	27,484	19,713	220	8	3,139	1,033	2,526	845
TOTAL 1ST 50 INSTS.	2,487,049	1,683,432	187,613	6,005	117,101	78,437	340,094	74,367

SEE FOOTNOTES AT END OF TABLE.

TABLE B-18. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 YESHIVA UNIVERSITY	27,205E	24,627E	403I	0I	2,175I	0I	0I	0I
52 UNIV OF MD COLLEGE PARK	26,637	15,877	6,201	209	0	781	3,569	0
53 NORTHWESTERN UNIVERSITY	26,378	20,988	197	0	1,741	322	1,535	1,595
54 RUTGERS THE STATE UNIV	26,234	11,517	5,622	210	381	629	7,668	207
55 U TEX CAN CTR MDA H & TI	25,858	15,732	0	0	950	0	8,760	416
56 UNIVERSITY OF IOWA	25,472	20,701	126	7	770	544	3,090	234
57 UNIVERSITY OF PITTSBURGH	23,958	18,286	200	19	1,311	372	3,527	243
58 UNIVERSITY OF CINCINNATI	23,573	10,140	15	6	968	582	5,643	5,819
59 PRINCETON UNIVERSITY	23,424	16,861	20	0	1,700	563	4,280	0
60 BAYLOR COLLEGE OF MED	23,355	21,063	43	0	1,953	158	0	138
TOTAL 1ST 60 INSTS.	2,739,143	1,859,224	200,440	6,456	129,050	82,788	378,166	83,019
61 UNIV OF NEBRASKA - LNCLN	23,198	6,397	11,877	65	110	354	4,239	156
62 VA POLYTECH INST & ST U	22,834	10,914	9,714	245	238	760	879	84
63 UNIV OF KENTUCKY ALL CAM	20,440	7,137	7,551I	0I	168I	505I	4,912I	167I
64 WASHINGTON STATE UNIV	20,108	5,808	11,948	86	440	1,802	0	24
65 WOODS HOLE OCNGRPHIC INST	20,073	17,392	47	0	449	572	824	789
66 UNIV ALABAMA BIRMINGHAM	19,701	17,327	638	100	650	495	491	0
67 UNIVERSITY OF VIRGINIA	19,323E	15,336E	55E	0E	708E	607E	2,376E	241E
68 CUNY MT SINAI SCH OF MED	19,308	16,036	46	0	1,064	112	1,113	937
69 CARNEGIE-MELLON UNIV	19,039	12,232	221	0	779	5,103	552	152
70 VANDERBILT UNIVERSITY	18,773	16,042	9	0	1,154	528	879	161
TOTAL 1ST 70 INSTS.	2,941,940	1,983,845	242,546	6,952	134,810	93,626	394,431	85,730
71 BOSTON UNIVERSITY	18,682	16,824	368	26	1,232	59	16	157
72 MISSISSIPPI STATE UNIV	18,439	5,257	7,203	488	38	219	708	4,526
73 U OF CAL RIVERSIDE	18,365	6,814	683	0	1,253	0	9,615	0
74 GEORGE WASHINGTON UNIV	18,330	16,844	48	5	915	385	123	10
75 UNIVERSITY OF KANSAS	18,134	12,499	1,082	34	492	157	3,742	128
76 SUNY AT BUFFALO	18,130	14,907	304	36	1,137	203	1,433	110
77 KANSAS ST UNIVERSITY	17,793	6,133	7,841	1	137	522	3,145	14
78 OKLAHOMA STATE UNIVERSITY	17,779	7,335	7,653	0	50	875	1,866	0
79 TEMPLE UNIVERSITY	17,415	12,873	337	187	715	82	2,402	819
80 U TEX HLTH SCI CTR DALLAS	16,755	13,383	337	16	1,736	820	119	344
TOTAL 1ST 80 INSTS.	3,121,762	2,096,714	268,402	7,745	142,515	96,948	417,600	91,838
81 FLORIDA STATE UNIVERSITY	16,220	8,606	1,614	0	268	269	5,463	0
82 AUBURN UNIVERSITY	15,919	5,642	6,196	1	0	0	3,180	900
83 UNIV OF MASS AT AMHERST	15,112	8,880	1,778	1	424	491	3,507	31
84 UNIVERSITY OF IDAHO	14,554	6,037	6,027	53	60	936	0	1,441
85 SUNY AT STONY BROOK	14,466	11,843	48	8	457	96	489	1,525
86 U OF CAL IRVINE	14,299	12,046	325	0	1,241E	315E	372	0
87 UTAH STATE UNIVERSITY	14,092	9,689	2,795	4	43	248	222	1,091
88 UNIVERSITY OF NEW MEXICO	13,397	9,449	1,983	0	397	779	661	128
89 UNIV OF VT & ST AGRIC COL	13,095	9,806	895	0	420	111	1,549	314
90 CLEMSON UNIVERSITY	12,782	4,365	362	48	217	241	7,549	0
TOTAL 1ST 90 INSTS.	3,265,698	2,183,077	290,425	7,860	146,042	100,434	440,592	97,268
91 NEW MEXICO STATE UNIV	12,740	11,210	473	16	70	566	244	161
92 EMORY UNIVERSITY	12,657	11,475	0	0	515	385	43	239
93 GEORGETOWN UNIVERSITY	12,644	6,117	0	4	1,267	1,282	964	3,010
94 WAYNE STATE UNIVERSITY	11,862	7,649	291	42	729	419	2,256	476
95 U TEX GALVESTON MED BRAN	11,858	7,219	2,136	0	1,702	463	0	338
96 VIRGINIA COMMONWLTH UNIV	11,793	9,473	31	0	793	508	861	127
97 BROWN UNIVERSITY	11,711	9,846	104	15	480	103	1,126	37
98 TULANE UNIVERSITY	11,655	7,493	236	1	1,250	733	1,060	882
99 WEST VIRGINIA UNIVERSITY	11,634	6,452	4,002	0	295	229	375	281
100 UNIV OF MD BALT PROF SCH	11,501	9,824	591	0	427	165	53	441
TOTAL 1ST 100 INSTS.	3,385,753	2,269,835	298,289	7,938	153,570	105,287	447,574	103,260

SEE FOOTNOTES AT END OF TABLE.

TABLE B-18. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
101 UNIVERSITY OF OREGON	11,258	8,387	4	0	88	4	2,393	382
102 UNIVERSITY OF WYOMING	11,072	7,250	1,549	1,062	9	1,202	0	0
103 U PUERTO RICO MAYAGUEZ	10,504E	3,727E	5,406E	0	0	41E	1,330E	0
104 UNIVERSITY OF DELAWARE	10,443	5,979	1,335	131	477	822	1,557	142
105 IND U PURDUE/INDIANAPOLIS	10,409	6,991	542	0	818	511	1,116	431
106 SUNY DOWNSTATE MED CTR	10,393	8,200	107	0	523	12	0	1,551
107 UNIVERSITY OF ARKANSAS	10,392	3,408	6,436	0	23	368	0	157
108 MONTANA STATE UNIVERSITY	10,293	4,873	3,973	0	9	849	425	164
109 UNIVERSITY OF DAYTON	10,180	9,000	100	0	25	644	389	22
110 ST LOUIS UNIV	10,001I	8,295I	158I	96I	719I	12I	0I	721I
TOTAL 1ST 110 INSTS.	3,490,698	2,335,945	317,899	9,227	156,261	109,752	454,784	106,830
111 UNIV OF RHODE ISLAND	9,822	9,515	24	283	0	0	0	0
112 UNIV OF MAINE ORONO	9,704	4,113	749	68	249	591	3,914	20
113 NORTH DAKOTA STATE UNIV	9,626	2,437	4,879	0	14	1,130	1,166	0
114 INDIANA UNIV-BLOOMINGTON	9,486	8,724	65	0	137	43	452	65
115 U OF OREGON HLTH SCI CTR	8,977	7,312	2	3	1,012	40	76	532
116 UNIVERSITY OF DENVER	8,606	6,452	259	260E	336	648E	253	398
117 U OF ILL MEDICAL CENTER	8,529	6,231	688	55	1,204	184	91E	76
118 INST OF AGRI UNIV OF TENN	8,204	2,750	3,081	0	0	0	2,373E	0
119 ALBANY MED COLLEGE	8,148	3,917	934	39	505	123	218	2,412
120 UNIV OKLAHOMA	7,915	6,923	389	0	87	446	28	42
TOTAL 1ST 120 INSTS.	3,579,715	2,394,319	328,969	9,935	159,805	112,957	463,355	110,375
121 U TENN CTR HLTH SCIENCES	7,719	6,493	143	0	298	312	0	473
122 BRANDEIS UNIVERSITY	7,571	6,840	117	29	585	0	0	0
123 THOM JEFFERSON UNIV	7,560	6,147	0	0	1,213	200	0	0
124 TUFTS UNIVERSITY	7,514	5,346	808	66	184	435	0	675
125 UNIVERSITY OF HOUSTON	7,468	4,365	1,362	0	1,017	178	546	0
126 U TEX HLTH SCI CTR HOUSTN	7,268	5,747	177	12	470	265	514	83
127 TEXAS TECH UNIVERSITY	7,119	3,170	2,426	20	964	311	76	152
128 DARTMOUTH COLLEGE	7,031	6,400	2	0	278	152	199	0
129 RENSSELAER POLY INST	6,999	5,231	182	0	599	737	250	0
130 LEHIGH UNIVERSITY	6,940	3,512	605	35	149	603	2,036	0
TOTAL 1ST 130 INSTS.	3,652,904	2,447,570	334,791	10,097	165,562	116,150	466,976	111,758
131 U OF CAL SANTA BARBARA	6,700	5,421	184	0	565E	0	530	0
132 UNIV OF NEW HAMPSHIRE	6,674	3,147	567	0	23	323	1,831	783
133 SYRACUSE UNIVERSITY	6,620	5,624	104	365	319	207	1	0
134 U OF NEB MED CTR	6,478	4,690	15	0	471	500	643	159
135 U TEX HLTH SCI CR SAN ANT	6,436	5,147	96	2	603	270	6	312
136 MEDICAL COLL OF GEORGIA	6,366	3,807	90	0	417	139	1,850	63
137 UNIVERSITY OF NOTRE DAME	6,247	5,475	33	16	224	313	185	1
138 SUNY UPSTATE MEDICAL CTR	6,236	4,583	73	0	1,345	0	0	235
139 RICE UNIVERSITY	6,222	4,963	0	0	1,259	0	0	0
140 NEW YORK MEDICAL COLLEGE	6,180	5,011	32	227	674	236	0	0
TOTAL 1ST 140 INSTS.	3,717,063	2,495,438	335,985	10,707	171,462	118,138	472,022	113,311
141 U TENNESSEE KNOXVILLE	6,058	4,881	167	8	174	828	0	0
142 UNIVERSITY OF LOUISVILLE	5,995	3,765	746	48	628	128	680	0
143 U OF CAL SANTA CRUZ	5,836	4,298	19	0	223E	0	1,296	0
144 SOUTH DAKOTA STATE UNIV	5,830	2,009	87	52	4	198	3,374	106
145 MED COLLEGE OF WISCONSIN	5,817	4,221	0	0	583	387	0	626
146 UNIV OF SOUTH FLORIDA	5,385	3,274	219	243	57	133	1,110	349
147 MED UNIV OF SO CAROLINA	5,225	4,049	406	0	273	192	0	305
148 UNIV OF NEVADA - RENO	5,180	1,964	2,261	0	178	265	475	37E
149 UNIV OF MISSOURI ROLLA	5,069	2,521	13	0	0	91	2,215	229
150 U OF WIS MILWAUKEE	5,003	1,635	1,975	0	39	94	1,006	254
TOTAL 1ST 150 INSTS.	3,772,461	2,528,055	341,878	11,058	173,621	120,454	482,176	115,217

SEE FOOTNOTES AT END OF TABLE.

TABLE B-18. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
151 MICHIGAN TECH UNIVERSITY	4,977	1,672	1,366	0	42	893	953	51
152 UNIV OF MISSISSIPPI	4,965	3,860	273	0	517	138	95	82
153 US NAVAL POSTGRAD SCHOOL	4,756	4,749	7	0	0	0	0	0
154 POLYTECHNIC INST OF N Y	4,698	3,327	633	215	203	320	0	0
155 WAKE FOREST UNIVERSITY	4,689	3,931	22	0	255	89	135	257
156 ARIZONA STATE UNIVERSITY	4,441	3,077	162	7	562	126	507	0
157 MED COLL OHIO AT TOLEDO	4,249	3,411	0	0	747	0	0	81
158 SAN DIEGO STATE UNIV	4,234	3,353	51	52	115	663	0	0
159 UNIV OF ILL CHICAGO CIR	4,152	2,878	140	111	78	263	580	102
160 SUNY AT ALBANY	4,116	3,194	664	1	164	56	8	29
TOTAL 1ST 160 INSTS.	3,817,738	2,561,517	345,196	11,444	176,304	123,002	484,456	115,819
161 NORTHEASTERN UNIVERSITY	3,999	3,066	20	179	71	106	339	218
162 UNIV OF NORTH DAKOTA	3,900	3,285	381	0	50	125	34	25
163 SOUTHERN ILL U-CARBONDALE	3,854	1,687	730	0	0	0	456	981
164 BRIGHAM YOUNG UNIVERSITY	3,838	1,425	158	0	343	1,397	0	515
165 BOSTON COLLEGE	3,788	3,068	0	4	653	63	0	0
166 UNIV OF CAL SYS-WIDE PROG	3,766	172	0	0	106E	0	3,488	0
167 U OF ARKANSAS MED SCI CAM	3,757	3,077	0	0	97	47	536	0
168 STEVENS INSTITUTE OF TECH	3,734	2,388	69	39	0	1,031	207	0
169 COL OF MED & DENT OF N J	3,664	2,927	46	2	379	185	105	20
170 HOWARD UNIVERSITY	3,442	2,934	0	0	374	90	44	0
TOTAL 1ST 170 INSTS.	3,855,480	2,585,546	346,600	11,668	178,377	126,046	489,665	117,578
171 CITY COLLEGE OF CUNY	3,424	2,526	5	0	105	276	0	512
172 HAHNEMANN MED COL & HOSP	3,398	2,475	12	0	173	0	738	0
173 RUSH UNIVERSITY	3,397	2,518	73	6	707	10	83	0
174 DREXEL UNIVERSITY	3,389	2,549	27	20	59	226	508	0
175 DESERT RESEARCH INSTITUTE	3,224	1,967	297	23	0	641	287	9
176 TEXAS CHRISTIAN UNIV	3,200	2,500	311	271	425I	41	213I	0I
177 LOMA LINDA UNIVERSITY	3,155	1,796	44	0	143	37	0	1,135E
178 UNIV OF MO CENTRAL OFF	3,052	380	0	0	0	26	2,601	45
179 SUNY COL OF ENV SCI & FOR	2,992	1,665	0	0	221	305	801	0
180 UNIV OF SOUTH CAROLINA	2,842	1,957	102	30	226	226	0	301
TOTAL 1ST 180 INSTS.	3,887,553	2,605,879	347,191	11,774	180,436	127,797	494,896	119,580
181 U MASS MED SCHL-WORCESTER	2,816	1,970	14	0	434	3	377	18
182 UNIVERSITY OF MONTANA	2,802	1,706	721	24	61	98	115	77
183 FLORIDA A & M UNIVERSITY	2,757	2,717	30	10	0	0	0	0
184 WORCESTER POLY INSTITUTE	2,644	747	0	0	0	1,863	0	34
185 ILLINOIS INST OF TECH	2,638	2,099	61	0	30	344	0	104
186 U PUERTO RICO MED SCI CMP	2,559I	2,527I	13I	1I	3I	2I	10I	3I
187 U OF ARKANSAS PINE BLUFF	2,472	1,244	30	0	104	26	1,068	0
188 INSTITUTE PAPER CHEMISTRY	2,468	88	11	0	0	424	1,619	326
189 UNIV OF NEW ORLEANS	2,391	1,626	134	59	488	84	0	0
190 N MEX INST MINING & TECH	2,327	1,835	326	0	0	161	0	5
TOTAL 1ST 190 INSTS.	3,913,427	2,622,438	348,531	11,868	181,556	130,802	498,085	120,147
191 AMERICAN UNIVERSITY	2,324	2,088	0	0	90	69	77	0
192 COLORADO SCHOOL OF MINES	2,312	1,633	315	0	27	337	0	0
193 CATHOLIC UNIV OF AMERICA	2,176	1,832	0	16	28	209	86	5
194 FLORIDA TECH UNIV	2,105	482	292	0	17	50	1,264	0
195 UNIV ALABAMA HUNTSVILLE	2,095	1,537	350	0	66	0	142	0
196 UNIV OF WEST FLORIDA	2,070	587	869	16	31	45	521	1
197 GALLAUDET COLLEGE	2,060	456	0	0	0	0	1,604	0
198 OLD DOMINION UNIVERSITY	1,989	1,855	67	45	0	22	0	0
199 LOYOLA UNIVERSITY	1,956	1,663	0	0	130	88	2	73
200 CLARKSON COL OF TECH	1,942	1,419	0	0	0	288	235	0
TOTAL 1ST 200 INSTS.	3,934,456	2,635,990	350,424	11,945	181,945	131,910	502,016	120,226
TOTAL ALL OTHER INSTS.	129,76[illegible]	80,777	11,831	1,455	9,792	7,239	15,665	3,005

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-19. R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	2,640,667	1,613,355	332,430	9,133	97,875	81,909	432,269	73,696
1 UNIV OF WISCONSIN-MADISON	103,556	53,386	19,676	0	3,104	1,583	21,936	3,871
2 U OF CAL SAN DIEGO	87,636	78,719	544	0	4,628E	0	3,745	0
3 UNIVERSITY OF MINNESOTA	82,679	48,409	13,654	101	3,117	1,962	11,504	3,932
4 UNIVERSITY OF MICHIGAN	79,922	50,908	760	0	2,928	4,264	16,491	4,571
5 UNIVERSITY OF WASHINGTON	77,757	66,066	3,911	730	1,999	1,810	185	3,056
6 U OF CAL BERKELEY	70,148	50,197	1,094	0	3,528E	0	14,929	0
7 U OF CAL LOS ANGELES	69,277	55,956	503	0	6,644E	229E	5,945	0
8 UNIV ILLINOIS URBANA	59,320	40,558	2,091	742	1,048	1,425	11,930	1,526
9 TEXAS A & M UNIVERSITY	51,810	21,757	22,287	0	2,674	3,273	1,339	480
10 UNIV OF TEXAS AT AUSTIN	49,699	30,118	5,720	53	1,635	746	8,622	2,805
TOTAL 1ST 10 INSTS.	731,804	496,074	70,240	1,626	31,705	15,292	96,626	20,241
11 U OF CAL SAN FRANCISCO	49,677	41,220	240	0	4,111E	737E	3,369	0
12 MICHIGAN STATE UNIVERSITY	48,058	22,948	8,797	500	1,987	1,514	10,754	1,558
13 U OF CAL DAVIS	47,191	24,044	2,231	0	962E	1,796E	18,158	0
14 OHIO STATE UNIVERSITY	45,367	24,559	8,895	0	1,870	2,175	5,005	2,863
15 PENNSYLVANIA STATE UNIV	44,566	25,787	2,419	0	882	3,320	12,060	98
16 PURDUE UNIV ALL CAMPUSES	42,733	25,866	5,637	55	873	2,478	7,824	0
17 UNIVERSITY OF FLORIDA	41,895	14,091	1,770	43	596	1,034	21,468	2,893
18 UNIVERSITY OF ARIZONA	36,430	19,632	9,704	53	1,099	1,440	3,261	1,241
19 UNIVERSITY OF COLORADO	35,449	27,362	644	104	2,040	681	2,977	1,641
20 UNIVERSITY OF GEORGIA	35,216	11,591	1,023	6	326	1,144	21,126	0
TOTAL 1ST 20 INSTS.	1,158,386	733,174	111,600	2,387	46,451	31,611	202,628	30,535
21 UNIVERSITY OF ALASKA	35,175	24,664	808	13	424	981	7,814	471
22 IOWA ST U OF SCI & TECH	35,034	10,539	10,444	846	182	1,376	11,288	359
23 UNIVERSITY OF UTAH	31,812	24,576	3,448	0	1,033	2,244	511	0
24 UNIV OF NC AT CHAPEL HILL	31,611	25,776	2,581	0	3,044	210	0	0
25 COLORADO STATE UNIVERSITY	30,213	21,589	3,671	4	201	1,813	2,935	0
26 N C STATE UNIV AT RALEIGH	30,130	10,630	14,279	0	324	2,146	1,755	996
27 UNIVERSITY OF CONNECTICUT	29,528	15,588	1,069	31	1,462	676	9,959	743
28 OREGON STATE UNIVERSITY	29,195	15,670	8,449	107	858	1,333	84	2,694
29 UNIV OF HAWAII-MANOA	28,900	17,945	551	83	389	56	9,609	267
30 UNIV OF MISSOURI COLUMBIA	28,511	10,402	6,848	0	258	718	8,855	1,430
TOTAL 1ST 30 INSTS.	1,468,495	910,553	163,748	3,471	54,626	43,164	255,438	37,495
31 LOUISIANA ST UNIV SYSTEM	28,380	8,014	697	0	571	313	16,435	2,350
32 GEORGIA INSTITUTE OF TECH	27,782	15,198	614	247	314	2,957	7,873	579
33 UNIV OF MD COLLEGE PARK	26,637	15,877	6,201	209	0	781	3,569	0
34 RUTGERS THE STATE UNIV	26,234	11,517	5,622	210	381	629	7,668	207
35 U TEX CAN CTR MDA H & TI	25,858	15,732	0	0	950	0	8,760	416
36 UNIVERSITY OF IOWA	25,472	20,701	126	7	770	544	3,090	234
37 UNIVERSITY OF PITTSBURGH	23,958	18,286	200	19	1,311	372	3,527	243
38 UNIVERSITY OF CINCINNATI	23,573	10,140	15	6	568	982	5,643	5,819
39 UNIV OF NEBRASKA - LNCLN	23,198	6,397	11,877	65	110	354	4,239	156
40 VA POLYTECH INST & ST U	22,834	10,914	9,714	245	238	760	879	84
TOTAL 1ST 40 INSTS.	1,722,421	1,043,329	198,814	4,479	60,239	50,856	317,121	47,583
41 UNIV OF KENTUCKY ALL CAM	20,440	7,137	7,551I	0I	168I	505I	4,912I	167I
42 WASHINGTON STATE UNIV	20,108	5,808	11,948	86	440	1,802	0	24
43 UNIV ALABAMA BIRMINGHAM	19,701	17,327	638	100	650	495	491	0
44 UNIVERSITY OF VIRGINIA	19,323E	15,336E	55E	0E	708E	607E	2,376E	241E
45 CUNY MT SINAI SCH OF MED	19,308	16,036	46	0	1,064	112	1,113	937
46 MISSISSIPPI STATE UNIV	18,439	5,257	7,203	488	38	219	708	4,526
47 U OF CAL RIVERSIDE	18,365	6,814	683	0	1,253	0	9,615	0
48 UNIVERSITY OF KANSAS	18,134	12,499	1,082	34	492	157	3,742	128
49 SUNY AT BUFFALO	18,130	14,907	304	36	1,137	203	1,433	110
50 KANSAS ST UNIVERSITY	17,793	6,133	7,841	1	137	522	3,145	14
TOTAL 1ST 50 INSTS.	1,912,162	1,150,583	236,165	5,224	66,326	55,478	344,656	53,730

SEE FOOTNOTES AT END OF TABLE.

TABLE B-19. R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 OKLAHOMA STATE UNIVERSITY	17,779	7,335	7,653	0	50	875	1,866	0
52 TEMPLE UNIVERSITY	17,415	12,873	337	187	715	82	2,402	819
53 U TEX HLTH SCI CTR DALLAS	16,755	13,383	337	16	1,736	820	119	344
54 FLORIDA STATE UNIVERSITY	16,220	8,606	1,614	0	268	269	5,463	0
55 AUBURN UNIVERSITY	15,919	5,642	6,196	1	0	0	3,180	900
56 UNIV OF MASS AT AMHERST	15,112	8,880	1,778	1	424	491	3,507	31
57 UNIVERSITY OF IDAHO	14,554	6,037	6,027	53	60	936	0	1,441
58 SUNY AT STONY BROOK	14,466	11,843	48	8	457	96	489	1,525
59 U OF CAL IRVINE	14,299	12,046	325	0	1,241E	315E	372	0
60 UTAH STATE UNIVERSITY	14,092	9,689	2,795	4	43	248	222	1,091
TOTAL 1ST 60 INSTS.	2,068,773	1,246,917	263,275	5,494	71,320	59,610	362,276	59,881
61 UNIVERSITY OF NEW MEXICO	13,397	9,449	1,983	0	397	779	661	128
62 UNIV OF VT & ST AGRIC COL	13,095	9,806	895	0	420	111	1,549	314
63 CLEMSON UNIVERSITY	12,782	4,365	362	48	217	241	7,549	0
64 NEW MEXICO STATE UNIV	12,740	11,210	473	16	70	566	244	161
65 WAYNE STATE UNIVERSITY	11,862	7,645	291	42	729	419	2,256	476
66 U TEX GALVESTON MED BRAN	11,858	7,219	2,136	0	1,702	463	0	338
67 VIRGINIA COMMONWLTH UNIV	11,793	9,473	31	0	793	508	861	127
68 WEST VIRGINIA UNIVERSITY	11,634	6,452	4,002	0	295	229	375	281
69 UNIV OF MD BALT PROF SCH	11,501	9,824	591	0	427	165	53	441
70 UNIVERSITY OF OREGON	11,258	8,387	4	0	88	4	2,393	382
TOTAL 1ST 70 INSTS.	2,190,693	1,330,751	274,043	5,600	76,458	63,095	378,217	62,529
71 UNIVERSITY OF WYOMING	11,072	7,250	1,549	1,062	9	1,202	0	0
72 U PUERTO RICO MAYAGUEZ	10,504E	3,727E	5,406E	0	0	41E	1,330E	0
73 UNIVERSITY OF DELAWARE	10,443	5,979	1,335	131	477	822	1,557	142
74 IND U PURDUE/INDIANAPOLIS	10,409	6,991	542	0	818	511	1,116	431
75 SUNY DOWNSTATE MED CTR	10,393	8,200	107	0	523	12	0	1,551
76 UNIVERSITY OF ARKANSAS	10,392	3,408	6,436	0	23	368	0	157
77 MONTANA STATE UNIVERSITY	10,293	4,873	3,973	0	9	849	425	164
78 UNIV OF RHODE ISLAND	9,822	9,515	24	283	0	0	0	0
79 UNIV OF MAINE ORONO	9,704	4,113	749	68	249	591	3,914	20
80 NORTH DAKOTA STATE UNIV	9,626	2,437	4,879	0	14	1,130	1,166	0
TOTAL 1ST 80 INSTS.	2,293,351	1,387,244	299,043	7,144	78,580	68,621	387,725	64,994
81 INDIANA UNIV-BLOOMINGTON	9,486	8,724	65	0	137	43	452	65
82 U OF OREGON HLTH SCI CTR	8,977	7,312	2	3	1,012	40	76	532
83 U OF ILL MEDICAL CENTER	8,529	6,231	688	55	1,204	184	91E	76
84 INST OF AGRI UNIV OF TENN	8,204	2,750	3,081	0	0	0	2,373E	0
85 UNIV OKLAHOMA	7,915	6,923	389	0	87	446	28	42
86 U TENN CTR HLTH SCIENCES	7,719	6,493	143	0	298	312	0	473
87 UNIVERSITY OF HOUSTON	7,468	4,365	1,362	0	1,017	178	546	0
88 U TEX HLTH SCI CTR HOUSTN	7,268	5,747	177	12	470	265	514	83
89 TEXAS TECH UNIVERSITY	7,119	3,170	2,426	20	964	311	76	152
90 U OF CAL SANTA BARBARA	6,700	5,421	184	0	565E	0	530	0
TOTAL 1ST 90 INSTS.	2,372,736	1,444,380	307,560	7,234	84,334	70,400	392,411	66,417
91 UNIV OF NEW HAMPSHIRE	6,674	3,147	567	0	23	323	1,831	783
92 U OF NEB MED CTR	6,478	4,690	15	0	471	500	643	159
93 U TEX HLTH SCI CR SAN ANT	6,436	5,147	96	2	603	270	6	312
94 MEDICAL COLL OF GEORGIA	6,366	3,807	90	0	417	139	1,850	63
95 SUNY UPSTATE MEDICAL CTR	6,236	4,583	73	0	1,345	0	0	235
96 U TENNESSEE KNOXVILLE	6,058	4,881	167	8	174	828	0	0
97 UNIVERSITY OF LOUISVILLE	5,995	3,765	746	48	628	128	680	0
98 U OF CAL SANTA CRUZ	5,836	4,298	19	0	223E	0	1,296	0
99 SOUTH DAKOTA STATE UNIV	5,830	2,009	87	52	4	198	3,374	106
100 UNIV OF SOUTH FLORIDA	5,385	3,274	219	243	57	133	1,110	349
TOTAL 1ST 100 INSTS.	2,434,030	1,483,981	309,639	7,587	88,279	72,919	403,201	68,424
TOTAL ALL OTHER INSTS.	206,637	129,374	22,791	1,546	9,596	8,990	29,068	5,272

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-20. R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
UNITED STATES TOTAL	1,423,553	1,103,412	29,825	4,267	93,862	57,240	85,412	49,535
1 MASS INST OF TECHNOLOGY	102,045	85,066	449	599	3,350	5,122	1,234	6,225
2 STANFORD UNIVERSITY	77,019	71,115	112	0	1,815	61	3,288	628
3 HARVARD UNIVERSITY	73,301	55,485	84	119	5,086	2,900	4,642	4,985
4 COLUMBIA UNIV MAIN DIV	72,948	58,973	525	0	7,732	418	2,707	2,593
5 CORNELL UNIVERSITY	71,346	45,895	13,878	0	2,622	3,094	3,989	1,868
6 UNIV OF PENNSYLVANIA	70,721	47,313	1,001	352	8,283	2,786	10,209	777
7 JOHNS HOPKINS UNIVERSITY	61,858	50,445	1,877	286	2,325	872	0	6,053
8 UNIVERSITY OF CHICAGO	59,332	46,109	867	0	3,837	1,006	6,267	1,246
9 UNIVERSITY OF ROCHESTER	53,129	33,502	807	373	3,006	6,584	6,930	1,927
10 YALE UNIVERSITY	47,887	42,237	540	0	2,017	478	1,985	630
TOTAL 1ST 10 INSTS.	689,586	536,140	20,140	1,729	40,073	23,321	41,251	26,932
11 NEW YORK UNIVERSITY	45,789	36,922	598	116	3,998	2,080	318	1,757
12 WASHINGTON UNIVERSITY	38,431	33,138	307	0	1,758	731	0	2,497
13 CALIFORNIA INST OF TECH	33,866	29,090	281	24	3,609	182	494	186
14 UNIV OF STHRN CALIFORNIA	32,656	28,319	213	267	2,210	1,647	0	0
15 UNIVERSITY OF MIAMI	32,455	24,815	104	111	1,545	1,261	3,568	1,051
16 ROCKEFELLER UNIVERSITY	31,773	14,403	362	0	3,632	1,151	11,874	351
17 DUKE UNIVERSITY	30,352	27,127	329	32	1,626	597	317	324
18 CASE WESTERN RESERVE UNIV	27,484	19,713	220	8	3,139	1,033	2,526	845
19 YESHIVA UNIVERSITY	27,205E	24,627E	403I	0I	2,175I	0I	0I	0I
20 NORTHWESTERN UNIVERSITY	26,378	20,988	197	0	1,741	322	1,535	1,595
TOTAL 1ST 20 INSTS.	1,015,975	795,282	23,154	2,287	65,506	32,325	61,883	35,538
21 PRINCETON UNIVERSITY	23,424	16,861	20	0	1,700	563	4,280	0
22 BAYLOR COLLEGE OF MED	23,355	21,063	43	0	1,953	158	0	138
23 WOODS HOLE OCNGRPHIC INST	20,073	17,392	47	0	449	572	824	789
24 CARNEGIE-MELLON UNIV	19,039	12,232	221	0	779	5,103	552	152
25 VANDERBILT UNIVERSITY	18,773	16,042	9	0	1,154	528	879	161
26 BOSTON UNIVERSITY	18,682	16,824	368	26	1,232	59	16	157
27 GEORGE WASHINGTON UNIV	18,330	16,844	48	5	915	385	123	10
28 EMORY UNIVERSITY	12,657	11,475	0	0	515	385	43	239
29 GEORGETOWN UNIVERSITY	12,644	6,117	0	4	1,267	1,282	964	3,010
30 BROWN UNIVERSITY	11,711	9,846	104	15	480	103	1,126	37
TOTAL 1ST 30 INSTS.	1,194,663	939,978	24,014	2,337	75,950	41,463	70,690	40,231
31 TULANE UNIVERSITY	11,655	7,493	236	1	1,250	733	1,060	882
32 UNIVERSITY OF DAYTON	10,180	9,000	100	0	25	644	389	22
33 ST LOUIS UNIV	10,001I	8,295I	158I	96I	719I	12I	0I	721I
34 UNIVERSITY OF DENVER	8,606	6,452	259	260E	336	648E	253	398
35 ALBANY MED COLLEGE	8,148	3,917	934	39	505	123	218	2,412
36 BRANDEIS UNIVERSITY	7,571	6,840	117	29	585	0	0	0
37 THOM JEFFERSON UNIV	7,560	6,147	0	0	1,213	200	0	0
38 TUFTS UNIVERSITY	7,514	5,346	808	66	184	435	0	675
39 DARTMOUTH COLLEGE	7,031	6,400	2	0	278	152	199	0
40 RENSSELAER POLY INST	6,999	5,231	182	0	599	737	250	0
TOTAL 1ST 40 INSTS.	1,279,928	1,005,099	26,810	2,828	81,644	45,147	73,059	45,341
41 LEHIGH UNIVERSITY	6,940	3,512	605	35	149	603	2,036	0
42 SYRACUSE UNIVERSITY	6,620	5,624	104	365	319	207	1	0
43 UNIVERSITY OF NOTRE DAME	6,247	5,475	33	16	224	313	185	1
44 RICE UNIVERSITY	6,222	4,963	0	0	1,259	0	0	0
45 NEW YORK MEDICAL COLLEGE	6,180	5,011	32	227	674	236	0	0
46 MED COLLEGE OF WISCONSIN	5,817	4,221	0	0	583	387	0	626
47 POLYTECHNIC INST OF N Y	4,698	3,327	633	215	203	320	0	0
48 WAKE FOREST UNIVERSITY	4,689	3,931	22	0	255	89	135	257
49 NORTHEASTERN UNIVERSITY	3,999	3,066	20	179	71	106	339	218
50 BRIGHAM YOUNG UNIVERSITY	3,838	1,425	158	0	343	1,397	0	515
TOTAL 1ST 50 INSTS.	1,335,178	1,045,654	28,417	3,865	85,724	48,805	75,755	46,958

SEE FOOTNOTES AT END OF TABLE.

TABLE B-20. R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	FDNS & HEALTH AGENCIES	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 BOSTON COLLEGE	3,788	3,068	0	4	653	63	0	0
52 STEVENS INSTITUTE OF TECH	3,734	2,388	69	39	0	1,031	207	0
53 HOWARD UNIVERSITY	3,442	2,934	0	0	374	90	44	0
54 HAHNEMANN MED COL & HOSP	3,398	2,475	12	0	173	0	738	0
55 RUSH UNIVERSITY	3,397	2,518	73	6	707	10	83	0
56 DREXEL UNIVERSITY	3,389	2,549	27	20	59	226	508	0
57 TEXAS CHRISTIAN UNIV	3,200	2,50C	311	271	425I	41	213I	0I
58 LOMA LINDA UNIVERSITY	3,155	1,796	44	0	143	37	0	1,135E
59 WORCESTER POLY INSTITUTE	2,644	747	0	0	0	1,863	0	34
60 ILLINOIS INST OF TECH	2,638	2,099	61	0	30	344	0	104
TOTAL 1ST 60 INSTS.	1,367,963	1,068,728	28,734	3,961	88,288	52,473	77,548	48,231
61 INSTITUTE PAPER CHEMISTRY	2,468	88	11	0	0	424	1,619	326
62 AMERICAN UNIVERSITY	2,324	2,088	0	0	90	69	77	0
63 CATHOLIC UNIV OF AMERICA	2,176	1,832	0	16	28	209	86	5
64 GALLAUDET COLLEGE	2,060	456	0	0	0	0	1,604	0
65 LOYOLA UNIVERSITY	1,956	1,663	0	0	130	88	2	73
66 CLARKSON COL OF TECH	1,942	1,419	0	0	0	288	235	0
67 SOUTHERN METHODIST UNIV	1,905	1,352	0	56	236	41	187	33
68 THE MED COLL OF PENNA	1,816	1,419	43	0	102	223	0	29
69 GEO PEABODY COL TEACHERS	1,654	1,557	23	0	24	0	0	50
70 MEHARRY MEDICAL COLLEGE	1,557	1,204	305	0	48	0	0	0
TOTAL 1ST 70 INSTS.	1,387,821	1,081,806	29,116	4,033	88,946	53,815	81,358	48,747
71 WESLEYAN UNIVERSITY	1,305	877	80	0	127	12	194	15
72 CREIGHTON UNIVERSITY	1,086	806	0	0	95	185	0	0
73 UNIV OF SOUTH ALABAMA	1,075	621	156	0	144	18	102	34
74 NOVA UNIVERSITY	1,061	765	71	0I	96I	0I	0I	193I
75 NEW YORK INST TECH	1,035	280	0	0	0	287	468	0
76 CLARK UNIVERSITY	1,023E	902	2	0	119	0	0	0
77 WENTWORTH INSTITUTE	960	863	0	0	0	50	47	0
78 ROCHESTER INST TECHNOLOGY	932	87	20	7	413	51	322	32
79 UNIVERSITY OF THE PACIFIC	921	636	0	35	127	0	123	0
80 MARQUETTE UNIVERSITY	914	526	32	14	55	106	153	28
TOTAL 1ST 80 INSTS.	1,398,133	1,088,169	29,413	4,089	90,122	54,524	82,767	49,049
81 FORDHAM UNIVERSITY	904I	744I	21	0I	101I	29I	28I	0I
82 TUSKEGEE INSTITUTE	837	833	0	0	0	0	4	0
83 UNIVERSITY OF SANTA CLARA	780	767	0	13	0	0	0	0
84 EMMANUEL COLLEGE	726	723	0	0	3	0	0	0
85 U HLTH SCI/CHCGO MED SCH	668	424	1	0	62	10	167	4
86 BAYLOR UNIVERSITY	658	114	0	20	307	8	179	30
87 UNIV OF SAN FRANCISCO	634	529	13	0	61	9	22	0
88 AMHERST COLLEGE	614	531	0	0	83	0	0	0
89 FLORIDA INST OF TECH	609	293	19	0	112	51	134	0
90 COLUMBIA UNIV TCHRS COL	600	340	0	0	197	13	12	38
TOTAL 1ST 90 INSTS.	1,405,163	1,093,467	29,448	4,122	91,048	54,644	83,313	49,121
91 UNION COLLEGE	596	207	24	0	365	0	0	0
92 ATLANTA UNIVERSITY	562	476	0	0	28	54	4	0
93 MANHATTAN COLLEGE	553	405	0	0	11	0	0	133
94 INST TEXTILE TECHNOLOGY	550	0	0	0	0	550	0	0
95 UNIVERSITY OF TULSA	534	176	0	0	0	105	253	0
96 REGIS COLLEGE	532	532	0	0	0	0	0	0
97 CLAREMONT GRAD SCHOOL	497	321	0	57	119	0	0	0
98 ALFRED UNIVERSITY	468	180	0	0	14	263	11	0
99 THE WRIGHT INSTITUTE	465I	0I	45I	7I	139I	79I	132I	63I
100 OCCIDENTAL COLLEGE	397E	56E	0	0	74E	242E	25E	0
TOTAL 1ST 100 INSTS.	1,410,317	1,095,824	29,517	4,186	91,798	55,937	83,738	49,317
TOTAL ALL OTHER INSTS.	13,236	7,588	308	81	2,064	1,303	1,674	218

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SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-21. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	4,064,220	498,606	426,689	317,035	106,329	2,256,782	83,014	269,481	106,284
1 UNIV OF WISCONSIN-MADISON	103,556	6,561	10,386	9,503	2,897	52,044	4,406	12,091	5,668
2 MASS INST OF TECHNOLOGY	102,045	36,936	28,020	6,960	8,802	15,021	1,725	2,891	1,690
3 U OF CAL SAN DIEGO	87,636	2,008	9,137	47,946	310	26,828	754	338	315
4 UNIVERSITY OF MINNESOTA	82,679	5,970	5,444	1,465	914	61,659	2,367	3,379	1,481
5 UNIVERSITY OF MICHIGAN	79,922	15,812	3,378	4,469	1,857	33,754	6,412	14,240	0
6 UNIVERSITY OF WASHINGTON	77,757	3,819	3,949	10,593	779	47,619	1,155	1,977	7,866
7 STANFORD UNIVERSITY	77,019	16,971	12,119	3,466	3,619	32,414	1,197	4,673	2,560
8 HARVARD UNIVERSITY	73,301	1,470	8,947	4,086	812	47,030	1,263	8,626	1,067
9 COLUMBIA UNIV MAIN DIV	72,948	6,294	4,346	13,232	430	39,463	565	2,954	5,664
10 CORNELL UNIVERSITY	71,346	7,096	12,133	1,053	1,084	45,440	278	4,037	225
TOTAL 1ST 10 INSTS.	828,209	102,937	97,859	102,773	21,504	401,272	20,122	55,206	26,536
11 UNIV OF PENNSYLVANIA	70,721	4,541	6,254	460	1,711	46,612	602	9,783	758
12 U OF CAL BERKELEY	70,148	13,430	12,260	1,620	1,368	30,283	1,696	8,193	1,298
13 U OF CAL LOS ANGELES	69,277	6,374	7,502	4,775	656	40,956	1,961	6,585	468
14 JOHNS HOPKINS UNIVERSITY	61,858	1,394	2,766	2,318	183	52,538	342	2,117	0
15 UNIVERSITY OF CHICAGO	59,332	0	10,521	1,785	1,085	41,502	1,125	3,314	0
16 UNIV ILLINOIS URBANA	59,320	14,184	6,343	5,964	4,900	15,106	1,880	7,163	3,780
17 UNIVERSITY OF ROCHESTER	53,129	14,562	5,545	141	504	29,891	936	716	834
18 TEXAS A & M UNIVERSITY	51,810	11,866	4,746	5,681	297	27,419	8	1,558	235
19 UNIV OF TEXAS AT AUSTIN	49,699	7,311	8,981	8,315	899	5,740	2,420	4,866	11,227
20 U OF CAL SAN FRANCISCO	49,677	0	850	0	0	48,324	0	503	0
TOTAL 1ST 20 INSTS.	1,423,180	176,599	163,627	133,832	33,107	739,643	31,292	99,944	45,136
21 MICHIGAN STATE UNIVERSITY	48,058	1,882	6,104	2,189	1,211	31,995	519	4,123	35
22 YALE UNIVERSITY	47,887	1,756	5,027	667	876	35,605	1,409	2,547	0
23 U OF CAL DAVIS	47,191	3,960	1,394	509	95	39,391	61	1,758	23
24 NEW YORK UNIVERSITY	45,789	0	1,692	46	4,096	35,475	334	2,532	1,614
25 OHIO STATE UNIVERSITY	45,367	8,877	3,166	964	872	26,297	324	4,342	525
26 PENNSYLVANIA STATE UNIV	44,566	9,344	2,153	5,288	3,425	19,805	637	2,081	1,833
27 PURDUE UNIV ALL CAMPUSES	42,733	11,309	4,417	454	987	21,489	810	3,198	69
28 UNIVERSITY OF FLORIDA	41,895	4,841	1,186	2,813	470	30,791	335	1,459	0
29 WASHINGTON UNIVERSITY	38,431	5,153	1,409	109	99	30,656	327	373	305
30 UNIVERSITY OF ARIZONA	36,430	2,302	10,299	4,623	211	14,617	98	3,548	732
TOTAL 1ST 30 INSTS.	1,861,527	226,023	200,474	151,494	45,449	1,025,764	36,146	125,905	50,272
31 UNIVERSITY OF COLORADO	35,449	1,832	7,838	1,887	1,086	20,100	1,297	1,225	184
32 UNIVERSITY OF GEORGIA	35,216	791	1,649	1,542	800	24,006	611	5,817	0
33 UNIVERSITY OF ALASKA	35,175	311	7,075	17,458	123	7,919	0	1,829	460
34 IOWA ST U OF SCI & TECH	35,034	5,956	3,339	137	1,818	18,235	203	3,678	1,668
35 CALIFORNIA INST OF TECH	33,866	7,849	13,736	5,671	629	5,529	0	452	0
36 UNIV OF STHRN CALIFORNIA	32,656	7,325	1,312	1,497	86	19,627	476	2,333	0
37 UNIVERSITY OF MIAMI	32,455	1,547	287	7,566	30	21,674	48	803	500
38 UNIVERSITY OF UTAH	31,812	5,685	8,083	1,909	1,104	13,130	451	181	1,269
39 ROCKEFELLER UNIVERSITY	31,773	0	1,741	0	534	26,249	3,249	0	0
40 UNIV OF NC AT CHAPEL HILL	31,611	0	2,177	2,263	3,814	17,018	326	4,118	1,895
TOTAL 1ST 40 INSTS.	2,196,574	257,319	247,711	191,424	55,473	1,199,251	42,807	146,341	56,248
41 DUKE UNIVERSITY	30,352	954	1,747	1,290	320	24,250	393	1,398	0
42 COLORADO STATE UNIVERSITY	30,213	6,449	1,555	2,280	543	17,361	173	1,560	292
43 N C STATE UNIV AT RALEIGH	30,130	4,257	353	1,865	633	21,878	120	277	747
44 UNIVERSITY OF CONNECTICUT	29,528	2,863	2,679	1,303	331	19,910	1,136	1,306	0
45 OREGON STATE UNIVERSITY	29,195	2,341	1,136	6,091	390	17,708	0	1,207	322
46 UNIV OF HAWAII-MANOA	28,900	1,880	3,536	7,314	169	11,395	170	1,268	3,168
47 UNIV OF MISSOURI COLUMBIA	28,511	2,184	376	503	122	21,622	369	3,188	147
48 LOUISIANA ST UNIV SYSTEM	28,380	1,631	2,155	3,368	424	19,481	167	1,154	0
49 GEORGIA INSTITUTE OF TECH	27,782	18,904	4,423	369	713	317	87	2,371	598
50 CASE WESTERN RESERVE UNIV	27,484	7,281	2,518	380	202	16,022	225	856	0
TOTAL 1ST 50 INSTS.	2,487,049	306,063	268,189	216,187	59,320	1,369,195	45,647	160,926	61,522

SEE FOOTNOTES AT END OF TABLE.

TABLE B-21. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 YESHIVA UNIVERSITY	27,205E	0I	770I	0I	385I	25,212I	838I	0I	0I
52 UNIV OF MD COLLEGE PARK	26,637	4,503	7,714	422	3,859	7,818	456	1,300	565
53 NORTHWESTERN UNIVERSITY	26,378	3,330	3,467	262	598	14,389	775	785	2,772
54 RUTGERS THE STATE UNIV	26,234	1,197	2,918	1,899	1,430	12,530	3,051	2,452	757
55 U TEX CAN CTR MDA M & TI	25,858	0	1,188	0	2,468	22,202	0	0	0
56 UNIVERSITY OF IOWA	25,472	1,663	3,333	80	561	18,413	401	1,021	0
57 UNIVERSITY OF PITTSBURGH	23,958	2,025	3,859	181	1,496	13,598	597	991	1,211
58 UNIVERSITY OF CINCINNATI	23,573	2,108	703	190	104	19,280	55	63	1,070
59 PRINCETON UNIVERSITY	23,424	7,332	6,455	2,052	1,286	3,064	816	2,419	0
60 BAYLOR COLLEGE OF MED	23,355	0	0	0	0	23,355	0	0	0
TOTAL 1ST 60 INSTS.	2,739,143	328,221	298,596	221,273	71,507	1,529,056	52,636	169,957	67,897
61 UNIV OF NEBRASKA - LNCLN	23,198	1,804	846	3,389	226	15,025	237	1,671	0
62 VA POLYTECH INST & ST U	22,834	4,673	1,739	1,387	461	13,436	53	384	701
63 UNIV OF KENTUCKY ALL CAM	20,440	3,174I	722I	44I	55I	11,810I	114I	1,527I	2,994I
64 WASHINGTON STATE UNIV	20,108	3,904	884	127	173	13,700	95	1,225	0
65 WOODS HCLE OCNGRPHIC INST	20,073	1,687	0	18,386	0	0	0	0	0
66 UNIV ALABAMA BIRMINGHAM	19,701	49	80	122	153	18,907	63	88	239
67 UNIVERSITY OF VIRGINIA	19,323E	4,344E	2,514E	1,142E	365E	10,050E	266E	642E	0E
68 CUNY MT SINAI SCH OF MED	19,308	0	0	0	0	19,308	0	0	0
69 CARNEGIE-MELLON UNIV	19,039	6,636	6,299	0	3,015	767	704	1,618	0
70 VANDERBILT UNIVERSITY	18,773	665	936	70	23	16,214	359	506	0
TOTAL 1ST 70 INSTS.	2,941,940	355,157	312,616	245,940	75,978	1,648,273	54,527	177,618	71,831
71 BOSTON UNIVERSITY	18,682	175	1,184	0	259	15,760	149	293	862
72 MISSISSIPPI STATE UNIV	18,439	1,744	171	19	74	15,484	0	947	0
73 U OF CAL RIVERSIDE	18,365	0	1,186	903	215	13,960	161	438	1,502
74 GEORGE WASHINGTON UNIV	18,330	3,050	235	373	3,650	6,842	186	3,230	764
75 UNIVERSITY OF KANSAS	18,134	1,840	1,330	2,258	184	6,905	4,313	1,050	254
76 SUNY AT BUFFALO	18,130	1,861	1,062	247	1,837	12,335	349	439	0
77 KANSAS ST UNIVERSITY	17,793	1,792	588	470	333	13,238	24	667	681
78 OKLAHOMA STATE UNIVERSITY	17,779	4,225	886	217	76	10,371	10	1,108	886
79 TEMPLE UNIVERSITY	17,415	35	1,562	0	95	13,831	126	1,755	11
80 U TEX HLTH SCI CTR DALLAS	16,755	0	0	0	0	16,755	0	0	0
TOTAL 1ST 80 INSTS.	3,121,762	369,879	320,820	250,427	82,701	1,773,754	59,845	187,545	76,791
81 FLORIDA STATE UNIVERSITY	16,220	0	3,308	2,338	1,753	2,218	837	5,766	0
82 AUBURN UNIVERSITY	15,919	1,872	0	1,170	0	12,248	0	629	0
83 UNIV OF MASS AT AMHERST	15,112	1,606	3,600	2,378	678	4,913	609	1,192	136
84 UNIVERSITY OF IDAHO	14,554	1,333	250	254	3	9,811	0	2,077	826
85 SUNY AT STONY BROOK	14,466	1,628	3,338	1,164	615	6,567	424	481	249
86 U OF CAL IRVINE	14,299	423	3,253	0	208	9,566	0	838	11
87 UTAH STATE UNIVERSITY	14,092	4,335	78	2,180	26	6,109	21	1,135	208
88 UNIVERSITY OF NEW MEXICO	13,397	4,708	619	665	66	5,712	97	1,028	502
89 UNIV OF VT & ST AGRIC COL	13,095	200	528	30	7	11,741	294	232	63
90 CLEMSON UNIVERSITY	12,782	2,363	137	151	80	9,799	81	101	70
TOTAL 1ST 90 INSTS.	3,265,698	388,347	335,931	260,757	86,137	1,852,438	62,208	201,024	78,856
91 NEW MEXICO STATE UNIV	12,740	6,392	757	796	3,226	865	122	778	4
92 EMORY UNIVERSITY	12,657	0	369	27	16	12,125	43	77	0
93 GEORGETOWN UNIVERSITY	12,644	0	832	0	8	7,813	0	388	3,603
94 WAYNE STATE UNIVERSITY	11,862	1,665	1,641	7	75	6,324	114	864	1,152
95 U TEX GALVESTON MED BRAN	11,858	0	0	0	0	11,858	0	0	0
96 VIRGINIA COMMONWLTH UNIV	11,793	0	22	0	0	11,763	0	8	0
97 BROWN UNIVERSITY	11,711	2,482	2,183	1,148	1,316	3,058	680	844	0
98 TULANE UNIVERSITY	11,655	603	143	7	171	10,217	193	160	161
99 WEST VIRGINIA UNIVERSITY	11,634	3,291	256	325	72	5,298	4	2,388	0
100 UNIV OF MD BALT PROF SCH	11,501	0	0	0	0	11,406	0	95	0
TOTAL 1ST 100 INSTS.	3,385,753	402,780	342,134	263,067	91,021	1,932,965	63,364	206,646	83,776

SEE FOOTNOTES AT END OF TABLE.

TABLE B-21. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
101 UNIVERSITY OF OREGON	11,258	0	1,918	495	106	2,631	804	5,070	234
102 UNIVERSITY OF WYOMING	11,072	498	2,083	2,683	67	4,952	98	597	94
103 U PUERTO RICO MAYAGUEZ	10,504E	105E	0	387E	15E	9,997E	0	0	0
104 UNIVERSITY OF DELAWARE	10,443	3,414	1,014	2,104	148	2,436	261	901	165
105 IND U PURDUE/INDIANAPOLIS	10,409	1	75	4	3	8,897	7	413	1,009
106 SUNY DOWNSTATE MED CTR	10,393	0	0	0	0	10,393	0	0	0
107 UNIVERSITY OF ARKANSAS	10,392	559	347	16	18	8,717	3	268	464
108 MONTANA STATE UNIVERSITY	10,293	1,574	1,192	924	92	6,021	0	490	0
109 UNIVERSITY OF DAYTON	10,180	5,873	2,602	79	809	280	32	179	326
110 ST LOUIS UNIV	10,001I	347I	70I	383I	0I	7,754I	155I	986I	306I
TOTAL 1ST 110 INSTS.	3,490,698	415,151	351,435	270,142	92,279	1,995,043	64,724	215,550	86,374
111 UNIV OF RHODE ISLAND	9,822	1,200	233	7,232	0	1,043	0	114	0
112 UNIV OF MAINE ORONO	9,704	906	365	1,700	20	4,121	201	1,110	1,281
113 NORTH DAKOTA STATE UNIV	9,626	78	214	428	0	8,453	17	436	0
114 INDIANA UNIV-BLOOMINGTON	9,486	0	4,577	244	313	1,863	455	1,872	162
115 U OF OREGON HLTH SCI CTR	8,977	0	0	0	0	8,858	119	0	0
116 UNIVERSITY OF DENVER	8,606	2,454	1,826	47	256	222	637	3,163	1
117 U OF ILL MEDICAL CENTER	8,529	0	0	0	0	8,529	0	0	0
118 INST OF AGRI UNIV OF TENN	8,204	0	0	0	0	8,204	0	0	0
119 ALBANY MED COLLEGE	8,148	0	0	0	0	8,148	0	0	0
120 UNIV OKLAHOMA	7,915	1,002	596	713	379	3,601	21	1,363	240E
TOTAL 1ST 120 INSTS.	3,579,715	420,791	359,246	280,506	93,247	2,048,085	66,174	223,608	88,058
121 U TENN CTR HLTH SCIENCES	7,719	0	0	0	0	7,719	0	0	0
122 BRANDEIS UNIVERSITY	7,571	0	1,201	0	144	4,215	193	1,446	372
123 THOM JEFFERSON UNIV	7,560	0	0	0	0	7,560	0	0	0
124 TUFTS UNIVERSITY	7,514	220	331	0	0	6,419	8	536E	0
125 UNIVERSITY OF HOUSTON	7,468	1,641	2,565	158	218	1,360	335	1,191	0
126 U TEX HLTH SCI CTR HOUSTN	7,268	0	0	0	0	7,268	0	0	0
127 TEXAS TECH UNIVERSITY	7,119	2,722	831	171	49	2,987	58	200	101
128 DARTMOUTH COLLEGE	7,031	732	386	364	76	5,340	74	29	30
129 RENSSELAER POLY INST	6,999	4,511	1,055	206	360	207	45	15	600
130 LEHIGH UNIVERSITY	6,940	3,528	1,419	387	365	158	0	9	1,074
TOTAL 1ST 130 INSTS.	3,652,904	434,145	367,034	281,792	94,459	2,091,318	66,887	227,034	90,235
131 U OF CAL SANTA BARBARA	6,700	292	2,081	1,188	227	1,146	155	817	794
132 UNIV OF NEW HAMPSHIRE	6,674	319	1,534	737	32	3,305	44	213	490
133 SYRACUSE UNIVERSITY	6,620	2,717	892	0	491	935	214	1,277	94
134 U OF NEB MED CTR	6,478	0	0	0	0	6,478	0	0	0
135 U TEX HLTH SCI CR SAN ANT	6,436	0	0	0	0	6,436	0	0	0
136 MEDICAL COLL OF GEORGIA	6,366	0	0	0	0	6,366	0	0	0
137 UNIVERSITY OF NOTRE DAME	6,247	1,252	3,431	13	118	1,293	17	57	66
138 SUNY UPSTATE MEDICAL CTR	6,236	0	0	0	0	6,236	0	0	0
139 RICE UNIVERSITY	6,222	1,433	2,819	422	220	1,084	10	227	7
140 NEW YORK MEDICAL COLLEGE	6,180	0	0	0	0	6,180	0	0	0
TOTAL 1ST 140 INSTS.	3,717,063	440,158	377,791	284,152	95,547	2,130,777	67,327	229,625	91,686
141 U TENNESSEE KNOXVILLE	6,058	2,533	1,283	141	52	1,220	149	507	173
142 UNIVERSITY OF LOUISVILLE	5,995	519	186	8	15	4,695	148	217	207
143 U OF CAL SANTA CRUZ	5,836	C	2,620	481	144	1,876	240	367	108
144 SOUTH DAKOTA STATE UNIV	5,830	436	37	0	0	4,385	0	339	633
145 MED COLLEGE OF WISCONSIN	5,817	0	0	0	0	5,817	0	0	0
146 UNIV OF SOUTH FLORIDA	5,385	409	300	1,701	183	1,903	390	499	0
147 MED UNIV OF SO CAROLINA	5,225	0	0	0	0	5,225	0	0	0
148 UNIV OF NEVADA - RENO	5,180	808	163	128	0	3,439	299	343	0
149 UNIV OF MISSOURI ROLLA	5,069	3,660	1,149	87	99	14	0	52	8
150 U OF WIS MILWAUKEE	5,003	702	725	1,256	105	259	219	959	778
TOTAL 1ST 150 INSTS.	3,772,461	449,225	384,254	287,954	96,145	2,159,610	68,772	232,908	93,593

SEE FOOTNOTES AT END OF TABLE.

TABLE B-21. R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
151 MICHIGAN TECH UNIVERSITY	4,977	2,970	281	85	3	1,438	15	167	18
152 UNIV OF MISSISSIPPI	4,965	252	223	78	0	3,747E	37	628	0
153 US NAVAL POSTGRAD SCHOOL	4,756	1,438	484	687	1,039	160	259	689	0
154 POLYTECHNIC INST OF N Y	4,698	3,683	766	0	74	73	0	0	102
155 WAKE FOREST UNIVERSITY	4,689	0	33	0	0	4,508	25	42	81
156 ARIZONA STATE UNIVERSITY	4,441	1,071	1,125	279	34	1,162	262	508	0
157 MED COLL OHIO AT TOLEDO	4,249	0	0	0	0	4,249	0	0	0
158 SAN DIEGO STATE UNIV	4,234	172E	400	231	0	672	357	485	1,917E
159 UNIV OF ILL CHICAGO CIR	4,152	1,716	464	452	295	453	158	335	279
160 SUNY AT ALBANY	4,116	0	1,145	1,484	59	907	69	452	0
TOTAL 1ST 160 INSTS.	3,817,738	460,527	389,173	291,250	97,649	2,176,979	69,954	236,214	95,990
161 NORTHEASTERN UNIVERSITY	3,999	1,344	1,312	0	85	384	287	550	37
162 UNIV OF NORTH DAKOTA	3,900	1,186	318	485	0	1,552	0	325	34
163 SOUTHERN ILL U-CARBONDALE	3,854	124E	264	559	35	1,218	99	694	861E
164 BRIGHAM YOUNG UNIVERSITY	3,838	837	759	37	2	898	19	1,286	0
165 BOSTON COLLEGE	3,788	0	707	959	938	257	25	597	305
166 UNIV OF CAL SYS-WIDE PROG	3,766	25	36	2	0	3,073	0	127	503
167 U OF ARKANSAS MED SCI CAM	3,757	0	0	0	0	3,757	0	0	0
168 STEVENS INSTITUTE OF TECH	3,734	2,500	628	0	7	0	388	211	0
169 COL OF MED & DENT OF N J	3,664	0	0	0	0	3,664	0	0	0
170 HOWARD UNIVERSITY	3,442	131	159	0	5	2,941	0	206	0
TOTAL 1ST 170 INSTS.	3,855,480	466,674	393,358	293,292	98,721	2,194,723	70,772	240,210	97,730
171 CITY COLLEGE OF CUNY	3,424	1,186	1,040	377	284	342	171	24	0
172 HAHNEMANN MED COL & HOSP	3,398	0	0	0	0	3,398	0	0	0
173 RUSH UNIVERSITY	3,397	2	0	0	0	3,389	6	0	0
174 DREXEL UNIVERSITY	3,389	1,957	872	248	108	143	0	61	0
175 DESERT RESEARCH INSTITUTE	3,224	0	0	2,979	0	93	0	152	0
176 TEXAS CHRISTIAN UNIV	3,200	0I	724I	19I	5I	54I	2,161I	235I	2I
177 LOMA LINDA UNIVERSITY	3,155	0	0	0	631	2,177	347	0	0
178 UNIV OF MO CENTRAL OFF	3,052	830	43	875	0	1,247	0	57	0
179 SUNY COL OF ENV SCI & FOR	2,992	685	832	649	0	826	0	0	0
180 UNIV OF SOUTH CAROLINA	2,842	378	841	663	2	424	69	465	0
TOTAL 1ST 180 INSTS.	3,887,553	471,712	397,710	299,102	99,751	2,206,816	73,526	241,204	97,732
181 U MASS MED SCHL-WORCESTER	2,816	0	0	0	0	2,816	0	0	0
182 UNIVERSITY OF MONTANA	2,802	0	390	265	81	780	85	1,201	0
183 FLORIDA A & M UNIVERSITY	2,757	0	385	360	20	1,970	0	22	0
184 WORCESTER POLY INSTITUTE	2,644	2,124	113	0	8	317	0	55	27
185 ILLINOIS INST OF TECH	2,638	1,068	846	326	134	251	13	0	0
186 U PUERTO RICO MED SCI CMP	2,559I	324I	292I	201I	62I	1,376I	64I	165I	75I
187 U OF ARKANSAS PINE BLUFF	2,472	56	159	1	350	1,019	0	256	631
188 INSTITUTE PAPER CHEMISTRY	2,468	1,270	431	469	41	257	0	0	0
189 UNIV OF NEW ORLEANS	2,391	0	672	864	39	129	224	463	0
190 N MEX INST MINING & TECH	2,327	1,387	112	798	20	0	0	10	0
TOTAL 1ST 190 INSTS.	3,913,427	477,941	401,110	302,386	100,506	2,215,731	73,912	243,376	98,465
191 AMERICAN UNIVERSITY	2,324	0	608	0	48	173	39	1,456	0
192 COLORADO SCHOOL OF MINES	2,312	1,925	313	0	20	0	0	54	0
193 CATHOLIC UNIV OF AMERICA	2,176	767	715	0	4	116	162	412	0
194 FLORIDA TECH UNIV	2,105	1,448	13	0	1	369	7	163	104
195 UNIV ALABAMA HUNTSVILLE	2,095	956	392	300E	80	26	36	0	305
196 UNIV OF WEST FLORIDA	2,070	0	67	332	15	22	273	1,361	0
197 GALLAUDET COLLEGE	2,060	0	562	0	577	0	0	921	0
198 OLD DOMINION UNIVERSITY	1,989	822	675	117	15	201	90	69	0
199 LOYOLA UNIVERSITY	1,956	0	28	0	0	1,623	114	191	0
200 CLARKSON COL OF TECH	1,942	1,030	711	0	172	24	0	5	0
TOTAL 1ST 200 INSTS.	3,934,456	484,889	405,194	303,135	101,438	2,218,285	74,633	248,008	98,874
TOTAL ALL OTHER INSTS.	129,764	13,717	21,495	13,900	4,891	38,497	8,381	21,473	7,410

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-22. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	2,716,767	336,211	340,724	236,830	77,378	1,466,629	62,313	139,285	57,397
1 MASS INST OF TECHNOLOGY	85,066	29,915	24,335	6,733	7,142	12,387	1,555	1,9C3	1,096
2 U OF CAL SAN DIEGO	78,719	1,937	8,626	42,277	304	24,235	742	293	305
3 STANFORD UNIVERSITY	71,115	15,074	12,018	3,115	3,452	30,885	1,161	4,206	1,204
4 UNIVERSITY OF WASHINGTON	66,066	3,077	3,456	9,416	712	40,149	985	1,458	6,813
5 COLUMBIA UNIV MAIN DIV	58,973	2,498	4,034	12,735	410	31,520	526	1,685	5,565
6 U OF CAL LOS ANGELES	55,956	5,750	7,202	3,854	610	33,277	1,869	3,073	321
7 HARVARD UNIVERSITY	55,485	1,370	7,835	3,712	755	36,673	1,078	3,686	376
8 UNIV OF WISCONSIN-MADISON	53,386	2,376	5,594	5,103	1,717	27,517	3,076	6,642	1,361
9 UNIVERSITY OF MICHIGAN	50,908	10,665	2,771	2,388	665	22,922	2,755	8,742	0
10 JOHNS HOPKINS UNIVERSITY	50,445	1,260	2,673	1,315	178	43,277	422	1,320	0
TOTAL 1ST 10 INSTS.	626,119	73,922	78,544	90,648	15,945	302,842	14,169	33,008	17,041
11 U OF CAL BERKELEY	50,197	10,806	11,275	965	1,092	21,115	1,005	3,494	445
12 UNIVERSITY OF MINNESOTA	48,409	3,831	4,567	776	565	35,357	1,966	1,091	256
13 UNIV OF PENNSYLVANIA	47,313	3,445	5,325	266	1,435	31,969	538	3,944	391
14 UNIVERSITY OF CHICAGO	46,109	0	9,694	1,758	1,041	30,735	1,002	1,879	0
15 CORNELL UNIVERSITY	45,895	6,186	11,115	1,029	1,014	24,445	159	1,865	82
16 YALE UNIVERSITY	42,237	1,548	4,913	620	857	31,033	1,232	2,034	0
17 U OF CAL SAN FRANCISCO	41,220	0	792	0	0	39,936	0	492	0
18 UNIV ILLINOIS URBANA	40,558	11,235	5,468	3,906	4,315	8,347	1,655	3,052	2,580
19 NEW YORK UNIVERSITY	36,922	0	1,661	46	4,022	27,888	306	1,749	1,250
20 UNIVERSITY OF ROCHESTER	33,502	6,175	4,542	123	322	2C,716	620	545	459
TOTAL 1ST 20 INSTS.	1,058,481	117,148	137,896	100,137	30,608	574,383	22,652	53,153	22,504
21 WASHINGTON UNIVERSITY	33,138	4,859	1,360	108	99	26,106	323	283	0
22 UNIV OF TEXAS AT AUSTIN	30,118	3,790	5,342	4,253	679	4,015	2,070	1,756	8,213
23 CALIFORNIA INST OF TECH	29,090	6,279	12,312	4,726	577	4,808	0	388	0
24 UNIV OF STHRN CALIFORNIA	28,319	6,867	1,189	1,140	86	16,499	471	2,067	0
25 UNIVERSITY OF COLORADO	27,362	1,347	6,779	1,585	484	15,399	1,111	514	143
26 DUKE UNIVERSITY	27,127	794	1,580	1,240	318	21,804	381	1,010	0
27 PURDUE UNIV ALL CAMPUSES	25,866	8,323	3,950	401	857	10,034	560	1,736	5
28 PENNSYLVANIA STATE UNIV	25,787	5,492	1,903	3,660	307	12,725	131	824	745
29 UNIV OF NC AT CHAPEL HILL	25,776	0	2,153	1,383	3,621	14,397	315	2,658	1,249
30 UNIVERSITY OF MIAMI	24,815	1,242	283	6,040	18	16,651	45	355	181
TOTAL 1ST 30 INSTS.	1,335,879	156,141	174,747	124,673	37,654	716,821	28,059	64,744	33,040
31 UNIVERSITY OF ALASKA	24,664	150	4,912	14,173	69	4,617	0	635	108
32 YESHIVA UNIVERSITY	24,627E	0I	7701	0I	385I	22,634I	838I	0I	0I
33 UNIVERSITY OF UTAH	24,576	4,344	6,487	1,454	755	10,934	404	133	60
34 OHIO STATE UNIVERSITY	24,559	5,097	2,716	609	536	12,249	277	2,989	86
35 U OF CAL DAVIS	24,044	1,523	1,198	350	44	20,334	29	557	9
36 MICHIGAN STATE UNIVERSITY	22,948	745	4,629	799	155	14,160	327	2,124	9
37 TEXAS A & M UNIVERSITY	21,757	5,693	2,945	4,584	240	7,626	0	620	49
38 COLORADO STATE UNIVERSITY	21,589	4,984	1,240	2,022	341	11,903	149	915	35
39 BAYLOR COLLEGE OF MED	21,063	0	0	0	0	21,063	0	0	0
40 NORTHWESTERN UNIVERSITY	20,988	2,956	3,208	254	594	10,030	767	566	2,613
TOTAL 1ST 40 INSTS.	1,566,694	181,633	202,852	148,918	40,773	852,376	3C,850	73,283	36,009
41 UNIVERSITY OF IOWA	20,701	772	2,969	69	533	15,611	218	529	0
42 CASE WESTERN RESERVE UNIV	19,713	5,523	2,185	337	126	10,826	179	537	0
43 UNIVERSITY OF ARIZONA	19,632	1,370	7,380	1,918	178	6,830	88	1,833	35
44 UNIVERSITY OF PITTSBURGH	18,286	1,404	3,461	155	902	11,502	529	220	113
45 UNIV OF HAWAII-MANOA	17,945	1,392	2,559	5,205	169	6,069	170	531	1,850
46 WOODS HOLE OCNGRPHIC INST	17,392	1,643	0	15,749	0	0	0	0	0
47 UNIV ALABAMA BIRMINGHAM	17,327	1	33	0	133	16,976	52	81	51
48 PRINCETON UNIVERSITY	16,861	4,613	5,579	1,629	1,108	2,167	693	1,072	0
49 GEORGE WASHINGTON UNIV	16,844	3,019	235	373	3,388	5,948	185	2,972	724
50 BOSTON UNIVERSITY	16,824	159	1,126	0	243	14,439	84	191	582
TOTAL 1ST 50 INSTS.	1,748,219	201,529	228,379	174,353	47,553	942,744	33,048	81,249	39,364

SEE FOOTNOTES AT END OF TABLE.

TABLE B-22. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 VANDERBILT UNIVERSITY	16,042	489	831	67	22	13,959	336	338	0
52 CUNY MT SINAI SCH OF MED	16,036	0	0	0	0	16,036	0	0	0
53 UNIV OF MD COLLEGE PARK	15,877	2,930	6,452	267	1,481	3,182	416	768	381
54 U TEX CAN CTR MDA H & TI	15,732	0	660	0	1,471	13,601	0	0	0
55 OREGON STATE UNIVERSITY	15,670	1,189	886	5,254	94	7,307	0	647	293
56 UNIVERSITY OF CONNECTICUT	15,588	1,080	1,011	492	125	11,957	428	495	0
57 UNIVERSITY OF VIRGINIA	15,336E	3,434E	2,037E	998E	319E	7,811E	208E	529E	0E
58 GEORGIA INSTITUTE OF TECH	15,198	10,384	2,420	187	363	161	44	1,335	304
59 SUNY AT BUFFALO	14,907	1,507	974	234	1,785	9,965	343	99	0
60 ROCKEFELLER UNIVERSITY	14,403	0	804	0	82	11,864	1,653	0	0
TOTAL 1ST 60 INSTS.	1,903,008	222,542	244,454	181,852	53,295	1,038,587	36,476	85,460	40,342
61 UNIVERSITY OF FLORIDA	14,091	2,981	1,046	1,196	67	8,246	318	237	0
62 U TEX HLTH SCI CTR DALLAS	13,383	0	0	0	0	13,383	0	0	0
63 TEMPLE UNIVERSITY	12,873	29	1,285	0	81	10,656	102	720E	0
64 UNIVERSITY OF KANSAS	12,499	1,360	1,109	295	153	6,030	3,341	211	0
65 CARNEGIE-MELLON UNIV	12,232	4,249	2,872	0	2,957	619	554	981	0
66 U OF CAL IRVINE	12,046	410	3,122	0	208	7,704	0	601	1
67 SUNY AT STONY BROOK	11,843	912	3,083	1,027	486	5,503	373	382	77
68 UNIVERSITY OF GEORGIA	11,591	88	862	898	377	7,960	274	1,132	0
69 RUTGERS THE STATE UNIV	11,517	639	2,250	509	1,071	3,488	2,411	877	272
70 EMORY UNIVERSITY	11,475	0	282	26	14	11,081	35	37	0
TOTAL 1ST 70 INSTS.	2,026,558	233,210	260,365	185,803	58,709	1,113,257	43,884	90,638	40,692
71 NEW MEXICO STATE UNIV	11,210	5,894	680	439	3,214	389	121	472	1
72 VA POLYTECH INST & ST U	10,914	2,720	1,157	848	230	5,677	37	129	116
73 N C STATE UNIV AT RALEIGH	10,630	1,961	255	996	55	6,896	60	206	201
74 IOWA ST U OF SCI & TECH	10,539	2,231	582	39	567	5,569	57	1,224	270
75 UNIV OF MISSOURI COLUMBIA	10,402	954	247	294	100	7,068	97	1,594	48
76 UNIVERSITY OF CINCINNATI	10,140	1,357	514	164	97	7,942	26	28	12
77 BROWN UNIVERSITY	9,846	2,203	1,952	1,049	1,224	2,234	572	612	0
78 UNIV OF MD BALT PROF SCH	9,824	0	0	0	0	9,736	0	88	0
79 UNIV OF VT & ST AGRIC COL	9,806	183	429	6	4	8,782	245	116	41
80 UTAH STATE UNIVERSITY	9,689	3,371	19	1,946	0	3,841	2	504	6
TOTAL 1ST 80 INSTS.	2,129,558	254,084	266,200	191,584	64,200	1,171,391	45,101	95,611	41,387
81 UNIV OF RHODE ISLAND	9,515	1,075	233	7,132	0	993	0	82	0
82 VIRGINIA COMMONWLTH UNIV	9,473	0	18	0	0	9,455	0	0	0
83 UNIVERSITY OF NEW MEXICO	9,449	3,799	540	412	51	3,692	94	562	299
84 UNIVERSITY OF DAYTON	9,000	5,195	2,308	70	715	248	28	158	278
85 UNIV OF MASS AT AMHERST	8,880	1,106	2,784	847	408	2,716	460	559	0
86 INDIANA UNIV-BLOOMINGTON	8,724	0	4,370	220	305	1,644	449	1,615	121
87 FLORIDA STATE UNIVERSITY	8,606	0	1,647E	1,670E	365E	1,282E	409E	3,233E	0
88 UNIVERSITY OF OREGON	8,387	0	1,413	293	80	2,008	632	3,858	103
89 ST LOUIS UNIV	8,295I	347I	66I	383I	0I	6,856I	144I	339I	160I
90 SUNY DOWNSTATE MED CTR	8,200	0	0	0	0	8,200	0	0	0
TOTAL 1ST 90 INSTS.	2,218,087	265,606	279,579	202,611	66,124	1,208,485	47,317	106,017	42,348
91 LOUISIANA ST UNIV SYSTEM	8,014	452	1,158	1,287	91	4,870	106	50	0
92 WAYNE STATE UNIVERSITY	7,649	1,022	1,414	0	66	4,623	73	451	0
93 TULANE UNIVERSITY	7,493	286	100	7	144	6,539	176	144	97
94 OKLAHOMA STATE UNIVERSITY	7,335	2,724	593	42	63	3,335	10	98	470
95 U OF OREGON HLTH SCI CTR	7,312	0	0	0	0	7,217	95	0	0
96 UNIVERSITY OF WYOMING	7,250	397	1,802	1,895	67	2,624	83	288	94
97 U TEX GALVESTON MED BRAN	7,219	0	0	0	0	7,219	0	0	0
98 UNIV OF KENTUCKY ALL CAM	7,137	1,477I	510I	22I	55I	3,806I	57I	794I	416I
99 IND U PURDUE/INDIANAPOLIS	6,991	0	57	0	3	6,237	5	20	669
100 UNIV OKLAHOMA	6,923	852	506	605	322	3,258	18	1,159	203
TOTAL 1ST 100 INSTS.	2,291,410	272,816	285,719	206,469	66,935	1,258,213	47,940	109,021	44,297

SEE FOOTNOTES AT END OF TABLE.

TABLE B-22. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
101 BRANDEIS UNIVERSITY	6,840	0	1,153	0	143	3,952	189	1,163	240
102 U OF CAL RIVERSIDE	6,814	0	1,120	734	89	3,363	142	363	1,003
103 U TENN CTR HLTH SCIENCES	6,493	0	0	0	0	6,493	0	0	0
104 UNIVERSITY OF DENVER	6,452	1,890	1,367	36	182	146	420	2,410	1
105 WEST VIRGINIA UNIVERSITY	6,452	2,100	38	271	62	3,528	0	453	0
106 DARTMOUTH COLLEGE	6,400	547	314	348	70	5,001	66	24	30
107 UNIV OF NEBRASKA - LNCLN	6,397	419	771	1,580	34	2,959	73	561	0
108 U OF ILL MEDICAL CENTER	6,231	0	0	0	0	6,231	0	0	0
109 THOM JEFFERSON UNIV	6,147	0	0	0	0	6,147	0	0	0
110 KANSAS ST UNIVERSITY	6,133	640	371	201	277	3,685	16	344	599
TOTAL 1ST 110 INSTS.	2,355,769	278,412	290,853	209,639	67,792	1,299,718	48,846	114,339	46,170
111 GEORGETOWN UNIVERSITY	6,117	0	670	0	7	4,892	0	346	202
112 UNIVERSITY OF IDAHO	6,037	699	179	142	3	3,850	0	807	357
113 UNIVERSITY OF DELAWARE	5,979	2,290	566	994	80	1,299	199	386	165
114 WASHINGTON STATE UNIV	5,808	1,486	837	124	78	2,895	76	312	0
115 U TEX HLTH SCI CTR HOUSTN	5,747	0	0	0	0	5,747	0	0	0
116 AUBURN UNIVERSITY	5,642	1,397	0	1,062	0	2,766	0	417	0
117 SYRACUSE UNIVERSITY	5,624	2,446	858	0	431	887	214	695	93
118 UNIVERSITY OF NOTRE DAME	5,475	1,075	3,288	13	112	903	13	29	42
119 U OF CAL SANTA BARBARA	5,421	190	1,901	888	156	926	134	643	583
120 TUFTS UNIVERSITY	5,346	124	319	0	0	4,561	8	334	0
TOTAL 1ST 120 INSTS.	2,412,965	288,119	299,471	212,862	68,659	1,328,444	49,490	118,308	47,612
121 MISSISSIPPI STATE UNIV	5,257	985	142	19	0	3,606E	0	505	0
122 RENSSELAER POLY INST	5,231	3,370	788	153	269	155	34	11	451E
123 U TEX HLTH SCI CR SAN ANT	5,147	0	0	0	0	5,147	0	0	0
124 NEW YORK MEDICAL COLLEGE	5,011	0	0	0	0	5,011	0	0	0
125 RICE UNIVERSITY	4,963	1,085	2,256	266	220	933	0	196	7
126 U TENNESSEE KNOXVILLE	4,881	1,749	1,168	109	47	1,049	105	481	173
127 MONTANA STATE UNIVERSITY	4,873	945	1,023	564	20	2,110	0	211	0
128 US NAVAL POSTGRAD SCHOOL	4,749	1,438	484	680	1,039	160	259	689	0
129 U OF NEB MED CTR	4,690	0	0	0	0	4,690	0	0	0
130 SUNY UPSTATE MEDICAL CTR	4,583	0	0	0	0	4,583	0	0	0
TOTAL 1ST 130 INSTS.	2,462,350	297,691	305,332	214,653	70,254	1,355,888	49,888	120,401	48,243
131 CLEMSON UNIVERSITY	4,365	741	26	32	15	3,501	15	19	16
132 UNIVERSITY OF HOUSTON	4,365	1,228	1,337	57	201	1,173	156	213	0
133 U OF CAL SANTA CRUZ	4,298	0	1,429	421	132	1,723	195	299	99
134 MED COLLEGE OF WISCONSIN	4,221	0	0	0	0	4,221	0	0	0
135 UNIV OF MAINE ORONO	4,113	401	195	1,455	8	1,246	124	67	617
136 MED UNIV OF SO CAROLINA	4,049	0	0	0	0	4,049	0	0	0
137 WAKE FOREST UNIVERSITY	3,931	0	21	0	0	3,866	25	19	0
138 ALBANY MED COLLEGE	3,917	0	0	0	0	3,917	0	0	0
139 UNIV OF MISSISSIPPI	3,860	147	137	54	0	2,955E	34	483	0
140 MEDICAL COLL OF GEORGIA	3,807	0	0	0	0	3,807	0	0	0
TOTAL 1ST 140 INSTS.	2,503,276	300,208	308,527	216,672	70,610	1,386,346	50,437	121,501	48,975
141 UNIVERSITY OF LOUISVILLE	3,765	240	77	0	4	3,269	115	11	49
142 U PUERTO RICO MAYAGUEZ	3,727E	105E	0	267E	0	3,355E	0	0	0
143 LEHIGH UNIVERSITY	3,512	1,923	589	152	238	98	0	0	512
144 MED COLL OHIO AT TOLEDO	3,421	0	0	0	0	3,421	0	0	0
145 UNIVERSITY OF ARKANSAS	3,408	291	300	0	18	2,142	2	225	430
146 SAN DIEGO STATE UNIV	3,353	172	215	8	0	610	342	346	1,660
147 POLYTECHNIC INST OF N Y	3,327	2,519	661	0	74	73	0	0	0
148 UNIV OF NORTH DAKOTA	3,285	1,156	309	428	0	1,336	0	56	0
149 UNIV OF SOUTH FLORIDA	3,274	183	206	1,464	140	1,055	172	54	0
150 SUNY AT ALBANY	3,194	0	1,037	900	57	807	69	324	0
TOTAL 1ST 150 INSTS.	2,537,542	306,797	311,921	219,891	71,141	1,402,512	51,137	122,517	51,626
TOTAL ALL OTHER INSTS.	179,225	29,414	28,803	16,939	6,237	64,117	11,176	16,768	5,771

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-23. R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	2,640,667	307,107	250,587	234,928	63,345	1,461,505	54,600	190,318	78,277
1 UNIV OF WISCONSIN-MADISON	103,556	6,561	10,386	9,503	2,897	52,044	4,406	12,091	5,668
2 U OF CAL SAN DIEGO	87,636	2,008	9,137	47,946	310	26,828	754	338	315
3 UNIVERSITY OF MINNESOTA	82,679	5,970	5,444	1,465	914	61,659	2,367	3,379	1,481
4 UNIVERSITY OF MICHIGAN	79,922	15,812	3,378	4,469	1,857	33,754	6,412	14,240	0
5 UNIVERSITY OF WASHINGTON	77,757	3,819	3,949	10,593	779	47,619	1,155	1,977	7,866
6 U OF CAL BERKELEY	70,148	13,430	12,260	1,620	1,368	30,283	1,696	8,193	1,298
7 U OF CAL LOS ANGELES	69,277	6,374	7,502	4,775	656	40,956	1,961	6,585	468
8 UNIV ILLINOIS URBANA	59,320	14,184	6,343	5,964	4,900	15,106	1,880	7,163	3,780
9 TEXAS A & M UNIVERSITY	51,810	11,866	4,746	5,681	297	27,419	8	1,558	235
10 UNIV OF TEXAS AT AUSTIN	49,699	7,311	8,981	8,315	899	5,740	2,420	4,806	11,227
TOTAL 1ST 10 INSTS.	731,804	87,335	72,126	100,331	14,877	341,408	23,059	60,330	32,338
11 U OF CAL SAN FRANCISCO	49,677	C	850	0	0	48,324	0	503	0
12 MICHIGAN STATE UNIVERSITY	48,058	1,882	6,104	2,189	1,211	31,995	519	4,123	35
13 U OF CAL DAVIS	47,191	3,960	1,394	509	95	39,391	61	1,758	23
14 OHIO STATE UNIVERSITY	45,367	8,877	3,166	964	872	26,297	324	4,342	525
15 PENNSYLVANIA STATE UNIV	44,566	9,344	2,153	5,288	3,425	19,805	637	2,081	1,833
16 PURDUE UNIV ALL CAMPUSES	42,733	11,309	4,417	454	987	21,489	810	3,198	69
17 UNIVERSITY OF FLORIDA	41,895	4,841	1,186	2,813	470	30,791	335	1,459	0
18 UNIVERSITY OF ARIZONA	36,430	2,302	10,299	4,623	211	14,617	98	3,548	732
19 UNIVERSITY OF COLORADO	35,449	1,832	7,838	1,887	1,086	20,100	1,297	1,225	184
20 UNIVERSITY OF GEORGIA	35,216	791	1,649	1,542	800	24,006	611	5,817	0
TOTAL 1ST 20 INSTS.	1,158,386	132,473	111,182	120,600	24,034	618,223	27,751	88,384	35,739
21 UNIVERSITY OF ALASKA	35,175	311	7,075	17,458	123	7,919	0	1,829	460
22 IOWA ST U OF SCI & TECH	35,034	5,956	3,339	137	1,818	18,235	203	3,678	1,668
23 UNIVERSITY OF UTAH	31,812	5,685	8,083	1,909	1,104	13,130	451	181	1,269
24 UNIV OF NC AT CHAPEL HILL	31,611	0	2,177	2,263	3,814	17,018	326	4,118	1,895
25 COLORADO STATE UNIVERSITY	30,213	6,449	1,555	2,280	543	17,361	173	1,560	292
26 N C STATE UNIV AT RALEIGH	30,130	4,257	353	1,865	633	21,878	120	277	747
27 UNIVERSITY OF CONNECTICUT	29,528	2,863	2,679	1,303	331	15,910	1,136	1,306	0
28 OREGON STATE UNIVERSITY	29,195	2,341	1,136	6,091	390	17,708	0	1,207	322
29 UNIV OF HAWAII-MANOA	28,900	1,880	3,536	7,314	169	11,395	170	1,268	3,168
30 UNIV OF MISSOURI COLUMBIA	28,511	2,184	376	503	122	21,622	369	3,188	147
TOTAL 1ST 30 INSTS.	1,468,495	164,399	141,491	161,723	33,081	784,399	30,699	106,996	45,707
31 LOUISIANA ST UNIV SYSTEM	28,380	1,631	2,155	3,368	424	19,481	167	1,154	0
32 GEORGIA INSTITUTE OF TECH	27,782	18,904	4,423	369	713	317	87	2,371	598
33 UNIV OF MD COLLEGE PARK	26,637	4,503	7,714	422	3,859	7,818	456	1,300	565
34 RUTGERS THE STATE UNIV	26,234	1,197	2,918	1,899	1,430	12,530	3,051	2,452	757
35 U TEX CAN CTR MDA H & TI	25,858	0	1,188	0	2,468	22,202	0	0	0
36 UNIVERSITY OF IOWA	25,472	1,663	3,333	80	561	18,413	401	1,021	0
37 UNIVERSITY OF PITTSBURGH	23,958	2,025	3,859	181	1,496	13,598	597	991	1,211
38 UNIVERSITY OF CINCINNATI	23,573	2,108	703	190	104	15,280	55	63	1,070
39 UNIV OF NEBRASKA - LNCLN	23,198	1,804	846	3,389	226	15,025	237	1,671	0
40 VA POLYTECH INST & ST U	22,834	4,673	1,739	1,387	461	13,436	53	384	701
TOTAL 1ST 40 INSTS.	1,722,421	202,907	170,369	173,008	44,823	926,499	35,803	118,403	50,609
41 UNIV OF KENTUCKY ALL CAM	20,440	3,174I	722I	44I	55I	11,810I	114I	1,527I	2,994I
42 WASHINGTON STATE UNIV	20,108	3,904	884	127	173	13,700	95	1,225	0
43 UNIV ALABAMA BIRMINGHAM	19,701	49	80	122	153	18,907	63	88	239
44 UNIVERSITY OF VIRGINIA	19,323E	4,344E	2,514E	1,142E	365E	10,050E	266E	642E	0E
45 CUNY MT SINAI SCH OF MED	19,308	0	0	0	0	19,308	0	0	0
46 MISSISSIPPI STATE UNIV	18,439	1,744	171	19	74	15,484	0	947	0
47 U OF CAL RIVERSIDE	18,365	0	1,186	903	215	13,960	161	438	1,502
48 UNIVERSITY OF KANSAS	18,134	1,840	1,330	2,258	184	6,905	4,313	1,050	254
49 SUNY AT BUFFALO	18,130	1,861	1,062	247	1,837	12,335	349	439	0
50 KANSAS ST UNIVERSITY	17,793	1,792	588	470	333	13,238	24	667	681
TOTAL 1ST 50 INSTS.	1,912,162	221,615	178,906	178,340	48,212	1,062,196	41,188	125,426	56,279

SEE FOOTNOTES AT END OF TABLE.

TABLE B-23. R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

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INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 OKLAHOMA STATE UNIVERSITY	17,779	4,225	886	217	76	10,371	10	1,108	886
52 TEMPLE UNIVERSITY	17,415	35	1,562	0	95	13,831	126	1,755	11
53 U TEX HLTH SCI CTR DALLAS	16,755	0	0	0	0	16,755	0	0	0
54 FLORIDA STATE UNIVERSITY	16,220	0	3,308	2,338	1,753	2,218	837	5,766	0
55 AUBURN UNIVERSITY	15,919	1,872	0	1,170	0	12,248	0	629	0
56 UNIV OF MASS AT AMHERST	15,112	1,606	3,600	2,378	678	4,913	609	1,192	136
57 UNIVERSITY OF IDAHO	14,554	1,333	250	254	3	9,811	0	2,077	826
58 SUNY AT STONY BROOK	14,466	1,628	3,338	1,164	615	6,567	424	481	249
59 U OF CAL IRVINE	14,299	423	3,253	0	208	9,566	0	838	11
60 UTAH STATE UNIVERSITY	14,092	4,335	78	2,180	26	6,109	21	1,135	208
TOTAL 1ST 60 INSTS.	2,068,773	237,072	195,181	188,041	51,666	1,134,585	43,215	140,407	58,606
61 UNIVERSITY OF NEW MEXICO	13,397	4,708	619	665	66	5,712	97	1,028	502
62 UNIV OF VT & ST AGRIC COL	13,095	200	528	30	7	11,741	294	232	63
63 CLEMSON UNIVERSITY	12,782	2,363	137	151	80	9,799	81	101	70
64 NEW MEXICO STATE UNIV	12,740	6,392	757	796	3,226	665	122	778	4
65 WAYNE STATE UNIVERSITY	11,862	1,665	1,641	7	75	6,324	114	884	1,152
66 U TEX GALVESTON MED BRAN	11,858	0	0	0	0	11,858	0	0	0
67 VIRGINIA COMMONWLTH UNIV	11,793	0	22	0	0	11,763	0	8	0
68 WEST VIRGINIA UNIVERSITY	11,634	3,291	256	325	72	5,298	4	2,388	0
69 UNIV OF MD BALT PROF SCH	11,501	0	0	0	0	11,406	0	95	0
70 UNIVERSITY OF OREGON	11,258	0	1,918	495	106	2,631	804	5,070	234
TOTAL 1ST 70 INSTS.	2,190.693	255,691	201,059	190,510	55,298	1,231,782	44,731	150,991	60,631
71 UNIVERSITY OF WYOMING	11,072	498	2,083	2,683	67	4,952	98	597	94
72 U PUERTO RICO MAYAGUEZ	10,504E	105E	0	387E	15E	9,997E	0	0	0
73 UNIVERSITY OF DELAWARE	10,443	3,414	1,014	2,104	148	2,436	261	901	165
74 IND U PURDUE/INDIANAPOLIS	10,409	1	75	4	3	8,897	7	413	1,009
75 SUNY DOWNSTATE MED CTR	10,393	0	0	0	0	10,393	0	0	0
76 UNIVERSITY OF ARKANSAS	10,392	559	347	16	18	8,717	3	268	464
77 MONTANA STATE UNIVERSITY	10,293	1,574	1,192	924	92	6,021	0	490	0
78 UNIV OF RHODE ISLAND	9,822	1,200	233	7,232	0	1,043	0	114	0
79 UNIV OF MAINE ORONO	9,704	906	365	1,700	20	4,121	201	1,110	1,281
80 NORTH DAKOTA STATE UNIV	9,626	78	214	428	0	8,453	17	436	0
TOTAL 1ST 80 INSTS.	2,293,351	264,026	206,582	205,988	55,661	1,296,812	45,318	155,320	63,644
81 INDIANA UNIV-BLOOMINGTON	9,486	0	4,577	244	313	1,863	455	1,872	162
82 U OF OREGON HLTH SCI CTR	8,977	0	0	0	0	8,858	119	0	0
83 U OF ILL MEDICAL CENTER	8,529	0	0	0	0	8,529	0	0	0
84 INST OF AGRI UNIV OF TENN	8,204	0	0	0	0	8,204	0	0	0
85 UNIV OKLAHOMA	7,915	1,002	596	713	379	3,601	21	1,363	240E
86 U TENN CTR HLTH SCIENCES	7,719	0	0	0	0	7,719	0	0	0
87 UNIVERSITY OF HOUSTON	7,468	1,641	2,565	158	218	1,360	335	1,191	0
88 U TEX HLTH SCI CTR HOUSTN	7,268	0	0	0	0	7,268	0	0	0
89 TEXAS TECH UNIVERSITY	7,119	2,722	831	171	49	2,987	58	200	101
90 U OF CAL SANTA BARBARA	6,700	292	2,081	1,188	227	1,146	155	817	794
TOTAL 1ST 90 INSTS.	2,372,736	269,683	217,232	208,462	56,847	1,348,347	46,461	160,763	64,941
91 UNIV OF NEW HAMPSHIRE	6,674	319	1,534	737	32	3,305	44	213	490
92 U OF NEB MED CTR	6,478	0	0	0	0	6,478	0	0	0
93 U TEX HLTH SCI CR SAN ANT	6,436	0	0	0	0	6,436	0	0	0
94 MEDICAL COLL OF GEORGIA	6,366	0	0	0	0	6,366	0	0	0
95 SUNY UPSTATE MEDICAL CTR	6,236	0	0	0	0	6,236	0	0	0
96 U TENNESSEE KNOXVILLE	6,058	2,533	1,283	141	52	1,220	149	507	173
97 UNIVERSITY OF LOUISVILLE	5,995	519	186	8	15	4,695	148	217	207
98 U OF CAL SANTA CRUZ	5,836	0	2,620	481	144	1,876	240	367	108
99 SOUTH DAKOTA STATE UNIV	5,830	436	37	0	0	4,385	0	339	633
100 UNIV OF SOUTH FLORIDA	5,385	409	300	1,701	183	1,903	390	499	0
TOTAL 1ST 100 INSTS.	2,434,030	273,899	223,192	211,530	57,273	1,391,247	47,432	162,905	66,552
TOTAL ALL OTHER INSTS.	206,637	33,208	27,395	23,398	6,072	70,258	7,168	27,413	11,725

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-24. FEDERALLY FINANCED R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	1,613,355	193,762	190,623	166,025	40,174	852,068	38,936	91,773	39,994
1 U OF CAL SAN DIEGO	78,719	1,937	8,626	42,277	304	24,235	742	293	305
2 UNIVERSITY OF WASHINGTON	66,066	3,077	3,456	9,416	712	40,149	985	1,458	6,813
3 U OF CAL LOS ANGELES	55,956	5,750	7,202	3,854	610	33,277	1,869	3,073	321
4 UNIV OF WISCONSIN-MADISON	53,386	2,376	5,594	5,103	1,717	27,517	3,076	6,642	1,361
5 UNIVERSITY OF MICHIGAN	50,908	10,665	2,771	2,388	665	22,922	2,755	8,742	0
6 U OF CAL BERKELEY	50,197	10,806	11,275	965	1,092	21,115	1,005	3,494	445
7 UNIVERSITY OF MINNESOTA	48,409	3,831	4,567	776	565	35,357	1,966	1,091	256
8 U OF CAL SAN FRANCISCO	41,220	0	792	0	0	39,936	0	492	0
9 UNIV ILLINOIS URBANA	40,558	11,235	5,468	3,906	4,315	8,347	1,655	3,052	2,580
10 UNIV OF TEXAS AT AUSTIN	30,118	3,790	5,342	4,253	679	4,015	2,070	1,756	8,213
TOTAL 1ST 10 INSTS.	515,537	53,467	55,093	72,938	10,659	256,870	16,123	30,093	20,294
11 UNIVERSITY OF COLORADO	27,362	1,347	6,779	1,585	484	15,399	1,111	514	143
12 PURDUE UNIV ALL CAMPUSES	25,866	8,323	3,950	401	857	10,034	560	1,736	5
13 PENNSYLVANIA STATE UNIV	25,787	5,492	1,903	3,660	307	12,725	131	824	745
14 UNIV OF NC AT CHAPEL HILL	25,776	0	2,153	1,383	3,621	14,397	315	2,658	1,249
15 UNIVERSITY OF ALASKA	24,664	150	4,912	14,173	69	4,617	0	635	108
16 UNIVERSITY OF UTAH	24,576	4,344	6,487	1,454	755	10,939	404	133	60
17 OHIO STATE UNIVERSITY	24,559	5,097	2,716	609	536	12,249	277	2,989	86
18 U OF CAL DAVIS	24,044	1,523	1,198	350	44	20,334	29	557	9
19 MICHIGAN STATE UNIVERSITY	22,948	745	4,629	799	155	14,160	327	2,124	9
20 TEXAS A & M UNIVERSITY	21,757	5,693	2,945	4,584	240	7,626	0	620	49
TOTAL 1ST 20 INSTS.	762,676	86,181	92,765	101,936	17,727	379,350	19,277	42,883	22,757
21 COLORADO STATE UNIVERSITY	21,589	4,984	1,240	2,022	341	11,903	149	915	35
22 UNIVERSITY OF IOWA	20,701	772	2,969	69	533	15,611	218	529	0
23 UNIVERSITY OF ARIZONA	19,632	1,370	7,380	1,918	178	6,830	88	1,833	35
24 UNIVERSITY OF PITTSBURGH	18,286	1,404	3,461	155	902	11,502	529	220	113
25 UNIV OF HAWAII-MANOA	17,945	1,392	2,559	5,205	169	6,069	170	531	1,850
26 UNIV ALABAMA BIRMINGHAM	17,327	1	33	0	133	16,976	52	81	51
27 CUNY MT SINAI SCH OF MED	16,036	0	0	0	0	16,036	0	0	0
28 UNIV OF MD COLLEGE PARK	15,877	2,930	6,452	267	1,481	3,182	416	768	381
29 U TEX CAN CTR MDA H & TI	15,732	0	660	0	1,471	13,601	0	0	0
30 OREGON STATE UNIVERSITY	15,670	1,189	886	5,254	94	7,307	0	647	293
TOTAL 1ST 30 INSTS.	941,671	100,223	118,405	116,826	23,029	488,367	20,899	48,407	25,515
31 UNIVERSITY OF CONNECTICUT	15,588	1,080	1,011	492	125	11,957	428	495	0
32 UNIVERSITY OF VIRGINIA	15,336E	3,434E	2,037E	998E	319E	7,811E	208E	529E	0E
33 GEORGIA INSTITUTE OF TECH	15,198	10,384	2,420	187	363	161	44	1,335	304
34 SUNY AT BUFFALO	14,907	1,507	974	234	1,785	9,965	343	99	0
35 UNIVERSITY OF FLORIDA	14,091	2,981	1,046	1,196	67	8,246	318	237	0
36 U TEX HLTH SCI CTR DALLAS	13,383	0	0	0	0	13,383	0	0	0
37 TEMPLE UNIVERSITY	12,873	29	1,285	0	81	10,656	102	720E	0
38 UNIVERSITY OF KANSAS	12,499	1,360	1,109	295	153	6,030	3,341	211	0
39 U OF CAL IRVINE	12,046	410	3,122	0	208	7,704	0	601	1
40 SUNY AT STONY BROOK	11,843	912	3,083	1,027	486	5,503	373	382	77
TOTAL 1ST 40 INSTS.	1,079,435	122,320	134,492	121,255	26,616	569,783	26,056	53,016	25,897
41 UNIVERSITY OF GEORGIA	11,591	88	862	898	377	7,960	274	1,132	0
42 RUTGERS THE STATE UNIV	11,517	639	2,250	509	1,071	3,488	2,411	877	272
43 NEW MEXICO STATE UNIV	11,210	5,894	680	439	3,214	389	121	472	1
44 VA POLYTECH INST & ST U	10,914	2,720	1,157	848	230	5,677	37	129	116
45 N C STATE UNIV AT RALEIGH	10,630	1,961	255	996	55	6,896	260	206	201
46 IOWA ST U OF SCI & TECH	10,539	2,231	582	39	567	5,569	57	1,224	270
47 UNIV OF MISSOURI COLUMBIA	10,402	954	247	294	100	7,068	97	1,594	48
48 UNIVERSITY OF CINCINNATI	10,140	1,357	514	164	97	7,942	26	28	12
49 UNIV OF MD BALT PROF SCH	9,824	0	0	0	0	9,736	0	88	0
50 UNIV OF VT & ST AGRIC COL	9,806	183	429	6	4	8,782	245	116	41
TOTAL 1ST 50 INSTS.	1,186,008	138,347	141,468	125,448	32,331	633,290	29,384	58,882	26,858

SEE FOOTNOTES AT END OF TABLE.

TABLE B-24. FEDERALLY FINANCED R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 UTAH STATE UNIVERSITY	9,689	3,371	19	1,946	0	3,841	2	504	6
52 UNIV OF RHODE ISLAND	9,515	1,075	233	7,132	0	993	0	82	0
53 VIRGINIA COMMONWLTH UNIV	9,473	0	18	0	0	9,455	0	0	0
54 UNIVERSITY OF NEW MEXICO	9,449	3,799	540	412	51	3,692	94	562	299
55 UNIV OF MASS AT AMHERST	8,880	1,106	2,784	847	408	2,716	460	559	0
56 INDIANA UNIV-BLOOMINGTON	8,724	0	4,370	220	305	1,644	449	1,615	121
57 FLORIDA STATE UNIVERSITY	8,606	0	1,647E	1,670E	365E	1,282E	409E	3,233E	0
58 UNIVERSITY OF OREGON	8,387	0	1,413	293	80	2,008	632	3,858	103
59 SUNY DOWNSTATE MED CTR	8,200	0	0	0	0	8,200	0	0	0
60 LOUISIANA ST UNIV SYSTEM	8,014	452	1,158	1,287	91	4,870	106	50	0
TOTAL 1ST 60 INSTS.	1,274,945	148,150	153,650	139,255	33,631	671,991	31,536	69,345	27,387
61 WAYNE STATE UNIVERSITY	7,649	1,022	1,414	0	66	4,623	73	451	0
62 OKLAHOMA STATE UNIVERSITY	7,335	2,724	593	42	63	3,335	10	98	470
63 U OF OREGON HLTH SCI CTR	7,312	0	0	0	0	7,217	95	0	0
64 UNIVERSITY OF WYOMING	7,250	397	1,802	1,895	67	2,624	83	288	94
65 U TEX GALVESTON MED BRAN	7,219	0	0	0	0	7,219	0	0	0
66 UNIV OF KENTUCKY ALL CAM	7,137	1,477I	510I	22I	55I	3,806I	57I	794I	416I
67 IND U PURDUE/INDIANAPOLIS	6,991	0	57	0	3	6,237	5	20	669
68 UNIV OKLAHOMA	6,923	852	506	605	322	3,258	18	1,159	203
69 U OF CAL RIVERSIDE	6,814	0	1,120	734	89	3,363	142	363	1,003
70 U TENN CTR HLTH SCIENCES	6,493	0	0	0	0	6,493	0	0	0
TOTAL 1ST 70 INSTS.	1,346,068	154,622	159,652	142,553	34,296	720,166	32,019	72,518	30,242
71 WEST VIRGINIA UNIVERSITY	6,452	2,100	38	271	62	3,528	0	453	0
72 UNIV OF NEBRASKA - LNCLN	6,397	419	771	1,580	34	2,959	73	561	0
73 U OF ILL MEDICAL CENTER	6,231	0	0	0	0	6,231	0	0	0
74 KANSAS ST UNIVERSITY	6,133	640	371	201	277	3,685	16	344	599
75 UNIVERSITY OF IDAHO	6,037	699	179	142	3	3,850	0	807	357
76 UNIVERSITY OF DELAWARE	5,979	2,290	566	994	80	1,299	199	386	165
77 WASHINGTON STATE UNIV	5,808	1,486	837	124	78	2,895	76	312	0
78 U TEX HLTH SCI CTR HOUSTN	5,747	0	0	0	0	5,747	0	0	0
79 AUBURN UNIVERSITY	5,642	1,397	0	1,062	0	2,766	0	417	0
80 U OF CAL SANTA BARBARA	5,421	190	1,901	888	156	926	134	643	583
TOTAL 1ST 80 INSTS.	1,405,915	163,843	164,315	147,815	34,986	754,052	32,517	76,441	31,946
81 MISSISSIPPI STATE UNIV	5,257	985	142	19	0	3,606E	0	505	0
82 U TEX HLTH SCI CR SAN ANT	5,147	0	0	0	0	5,147	0	0	0
83 U TENNESSEE KNOXVILLE	4,881	1,749	1,168	109	47	1,049	105	481	173
84 MONTANA STATE UNIVERSITY	4,873	945	1,023	564	20	2,110	0	211	0
85 US NAVAL POSTGRAD SCHOOL	4,749	1,438	484	680	1,039	160	259	689	0
86 U OF NEB MED CTR	4,690	0	0	0	0	4,690	0	0	0
87 SUNY UPSTATE MEDICAL CTR	4,583	0	0	0	0	4,583	0	0	0
88 CLEMSON UNIVERSITY	4,365	741	26	32	15	3,501	15	19	16
89 UNIVERSITY OF HOUSTON	4,365	1,228	1,337	57	201	1,173	156	213	0
90 U OF CAL SANTA CRUZ	4,298	0	1,429	421	132	1,723	195	299	99
TOTAL 1ST 90 INSTS.	1,453,123	170,929	169,924	149,697	36,440	781,794	33,247	78,858	32,234
91 UNIV OF MAINE ORONO	4,113	401	195	1,455	8	1,246	124	67	617
92 MED UNIV OF SO CAROLINA	4,049	0	0	0	0	4,049	0	0	0
93 UNIV OF MISSISSIPPI	3,860	147	187	54	0	2,955E	34	483	0
94 MEDICAL COLL OF GEORGIA	3,807	0	0	0	0	3,807	0	0	0
95 UNIVERSITY OF LOUISVILLE	3,765	240	77	0	4	3,269	115	11	49
96 U PUERTO RICO MAYAGUEZ	3,727E	105E	0	267E	0	3,355E	0	0	0
97 MED COLL OHIO AT TOLEDO	3,421	0	0	0	0	3,421	0	0	0
98 UNIVERSITY OF ARKANSAS	3,408	291	300	0	18	2,142	2	225	430
99 SAN DIEGO STATE UNIV	3,353	172	215	8	0	610	342	346	1,660
100 UNIV OF NORTH DAKOTA	3,285	1,156	309	428	0	1,336	0	56	0
TOTAL 1ST 100 INSTS.	1,489,911	173,441	171,207	151,909	36,470	807,984	33,864	80,046	34,990
TOTAL ALL OTHER INSTS.	123,444	20,321	19,416	14,116	3,704	44,084	5,072	11,727	5,004

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-25. R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	1,423,553	191,499	176,102	82,107	42,984	795,277	28,414	79,163	28,007
1 MASS INST OF TECHNOLOGY	102,045	36,936	28,020	6,960	8,802	15,021	1,725	2,891	1,690
2 STANFORD UNIVERSITY	77,019	16,971	12,119	3,466	3,619	32,414	1,197	4,673	2,560
3 HARVARD UNIVERSITY	73,301	1,470	8,947	4,086	812	47,030	1,263	8,626	1,067
4 COLUMBIA UNIV MAIN DIV	72,948	6,294	4,346	13,232	430	39,463	565	2,954	5,664
5 CORNELL UNIVERSITY	71,346	7,096	12,133	1,053	1,084	45,440	278	4,037	225
6 UNIV OF PENNSYLVANIA	70,721	4,541	6,254	460	1,711	46,612	602	9,783	758
7 JOHNS HOPKINS UNIVERSITY	61,858	1,394	2,766	2,318	183	52,538	542	2,117	0
8 UNIVERSITY OF CHICAGO	59,332	0	10,521	1,785	1,085	41,502	1,125	3,314	0
9 UNIVERSITY OF ROCHESTER	53,129	14,562	5,545	141	504	29,891	936	716	834
10 YALE UNIVERSITY	47,887	1,756	5,027	667	876	35,605	1,409	2,547	0
TOTAL 1ST 10 INSTS.	689,586	91,020	95,678	34,168	19,106	385,516	9,642	41,658	12,798
11 NEW YORK UNIVERSITY	45,789	0	1,692	46	4,096	35,475	334	2,532	1,614
12 WASHINGTON UNIVERSITY	38,431	5,153	1,409	109	99	30,656	327	373	305
13 CALIFORNIA INST OF TECH	33,866	7,849	13,736	3,671	629	5,529	0	452	0
14 UNIV OF STHRN CALIFORNIA	32,656	7,325	1,312	1,497	86	19,627	476	2,333	0
15 UNIVERSITY OF MIAMI	32,455	1,547	287	7,566	30	21,674	48	803	500
16 ROCKEFELLER UNIVERSITY	31,773	0	1,741	0	534	26,249	3,249	0	0
17 DUKE UNIVERSITY	30,352	954	1,747	1,290	320	24,250	393	1,398	0
18 CASE WESTERN RESERVE UNIV	27,484	7,281	2,518	380	202	16,022	225	856	0
19 YESHIVA UNIVERSITY	27,205E	0I	770I	0I	385I	25,212I	838I	0I	0I
20 NORTHWESTERN UNIVERSITY	26,378	3,330	3,467	262	598	14,389	775	785	2,772
TOTAL 1ST 20 INSTS.	1,015,975	124,459	124,357	50,989	26,085	604,599	16,307	51,190	17,989
21 PRINCETON UNIVERSITY	23,424	7,332	6,455	2,052	1,286	3,064	816	2,419	0
22 BAYLOR COLLEGE OF MED	23,355	0	0	0	0	23,355	0	0	0
23 WOODS HOLE OCNGRPHIC INST	20,073	1,687	0	18,386	0	0	0	0	0
24 CARNEGIE-MELLON UNIV	19,039	6,636	6,299	0	3,015	767	704	1,618	0
25 VANDERBILT UNIVERSITY	18,773	665	936	70	23	16,214	359	506	0
26 BOSTON UNIVERSITY	18,682	175	1,184	0	259	15,760	149	293	862
27 GEORGE WASHINGTON UNIV	18,330	3,050	235	373	3,650	6,842	186	3,230	764
28 EMORY UNIVERSITY	12,657	0	369	27	16	12,125	43	77	0
29 GEORGETOWN UNIVERSITY	12,644	0	832	0	8	7,813	0	388	3,603
30 BROWN UNIVERSITY	11,711	2,482	2,183	1,148	1,316	3,058	680	844	0
TOTAL 1ST 30 INSTS.	1,194,663	146,486	142,850	73,045	35,658	693,597	19,244	60,565	23,218
31 TULANE UNIVERSITY	11,655	603	143	7	171	10,217	193	160	161
32 UNIVERSITY OF DAYTON	10,180	5,873	2,602	79	809	280	32	179	326
33 ST LOUIS UNIV	10,001I	347I	70I	383I	0I	7,754I	155I	986I	306I
34 UNIVERSITY OF DENVER	8,606	2,454	1,826	47	256	222	637	3,163	1
35 ALBANY MED COLLEGE	8,148	0	0	0	0	8,148	0	0	0
36 BRANDEIS UNIVERSITY	7,571	0	1,201	0	144	4,215	193	1,446	372
37 THOM JEFFERSON UNIV	7,560	0	0	0	0	7,560	0	0	0
38 TUFTS UNIVERSITY	7,514	220	331	0	0	6,419	8	536E	0
39 DARTMOUTH COLLEGE	7,031	732	386	364	76	5,340	74	29	30
40 RENSSELAER POLY INST	6,999	4,511	1,055	206	360	207	45	15	600
TOTAL 1ST 40 INSTS.	1,279,928	161,226	150,464	74,131	37,474	743,959	20,581	67,079	25,014
41 LEHIGH UNIVERSITY	6,940	3,528	1,419	387	365	158	0	9	1,074
42 SYRACUSE UNIVERSITY	6,620	2,717	892	0	491	935	214	1,277	94
43 UNIVERSITY OF NOTRE DAME	6,247	1,252	3,431	13	118	1,293	17	57	66
44 RICE UNIVERSITY	6,222	1,433	2,819	422	220	1,084	10	227	7
45 NEW YORK MEDICAL COLLEGE	6,180	0	0	0	0	6,180	0	0	0
46 MED COLLEGE OF WISCONSIN	5,817	0	0	0	0	5,817	0	0	0
47 POLYTECHNIC INST OF N Y	4,698	3,683	766	0	74	73	0	0	102
48 WAKE FOREST UNIVERSITY	4,689	0	33	0	0	4,508	25	42	81
49 NORTHEASTERN UNIVERSITY	3,999	1,344	1,312	0	85	384	287	550	37
50 BRIGHAM YOUNG UNIVERSITY	3,838	837	759	37	2	898	19	1,286	0
TOTAL 1ST 50 INSTS.	1,335,178	176,020	161,895	74,990	38,829	765,289	21,153	70,527	26,475

SEE FOOTNOTES AT END OF TABLE.

TABLE B-25. R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 BOSTON COLLEGE	3,788	0	707	959	938	257	25	597	305
52 STEVENS INSTITUTE OF TECH	3,734	2,500	628	0	7	0	388	211	0
53 HOWARD UNIVERSITY	3,442	131	159	0	5	2,941	0	206	0
54 HAHNEMANN MED COL & HOSP	3,398	0	0	0	0	3,398	0	0	0
55 RUSH UNIVERSITY	3,397	2	0	0	0	3,389	6	0	0
56 DREXEL UNIVERSITY	3,389	1,957	872	248	108	143	0	61	0
57 TEXAS CHRISTIAN UNIV	3,200	0I	724I	19I	5I	54I	2,161I	235I	21
58 LOMA LINDA UNIVERSITY	3,155	0	0	0	631	2,177	347	0	0
59 WORCESTER POLY INSTITUTE	2,644	2,124	113	0	8	317	0	55	27
60 ILLINOIS INST OF TECH	2,638	1,068	846	326	134	251	13	0	0
TOTAL 1ST 60 INSTS.	1,367,963	183,802	165,944	76,542	40,665	778,216	24,093	71,892	26,809
61 INSTITUTE PAPER CHEMISTRY	2,468	1,270	431	469	41	257	0	0	0
62 AMERICAN UNIVERSITY	2,324	0	608	0	48	173	39	1,456	0
63 CATHOLIC UNIV OF AMERICA	2,176	767	715	0	4	116	162	412	0
64 GALLAUDET COLLEGE	2,060	0	562	0	577	0	0	921	0
65 LOYOLA UNIVERSITY	1,956	0	28	0	0	1,623	114	191	0
66 CLARKSON COL OF TECH	1,942	1,030	711	0	172	24	0	5	0
67 SOUTHERN METHODIST UNIV	1,905	658	44	387E	157	120	18	387	134E
68 THE MED COLL OF PENNA	1,816	0	0	0	0	1,816	0	0	0
69 GEO PEABODY COL TEACHERS	1,654	0	0	0	0	0	1,654	0	0
70 MEHARRY MEDICAL COLLEGE	1,557	59I	29I	12I	5I	1,401I	5I	33I	13I
TOTAL 1ST 70 INSTS.	1,387,821	187,586	169,072	77,410	41,669	783,746	26,085	75,297	26,956
71 WESLEYAN UNIVERSITY	1,305	0	439	19	49	481	29	188	100
72 CREIGHTON UNIVERSITY	1,086	0	0	0	0	1,086	0	0	0
73 UNIV OF SOUTH ALABAMA	1,075	0	20	61	0	975	3	16	0
74 NOVA UNIVERSITY	1,061	0	0	1,007E	0	38E	16E	0	0
75 NEW YORK INST TECH	1,035	631	80	0	279	0	0	0	45
76 CLARK UNIVERSITY	1,023E	0	205	0	19	45	242	512E	0
77 WENTWORTH INSTITUTE	960	0	0	913	0	0	0	0	47
78 ROCHESTER INST TECHNOLOGY	932	77	768	29	5	17	0	20	16
79 UNIVERSITY OF THE PACIFIC	921	0I	0I	22I	0I	899I	0I	0I	0I
80 MARQUETTE UNIVERSITY	914	172I	105I	0I	9I	322I	5I	301I	0I
TOTAL 1ST 80 INSTS.	1,398,133	188,466	170,689	79,461	42,030	787,609	26,380	76,334	27,164
81 FORDHAM UNIVERSITY	904I	0I	324I	0I	28I	224I	15I	293I	20I
82 TUSKEGEE INSTITUTE	837	121	0	0	0	716E	0	0	0
83 UNIVERSITY OF SANTA CLARA	780	438	54	169	18	8	0	82	11
84 EMMANUEL COLLEGE	726	0	723	0	0	3	0	0	0
85 U HLTH SCI/CHCGO MED SCH	668	0	0	0	0	668	0	0	0
86 BAYLOR UNIVERSITY	658	0	427	0	0	50	1	88	92
87 UNIV OF SAN FRANCISCO	634	0	416	0	89	129	0	0	0
88 AMHERST COLLEGE	614	0	258	19	0	243	4	90	0
89 FLORIDA INST OF TECH	609	216	3	93	0	297	0	0	0
90 COLUMBIA UNIV TCHRS COL	600	0	0	0	0	0	442	153	5
TOTAL 1ST 90 INSTS.	1,405,163	189,241	172,894	79,742	42,165	789,947	26,842	77,040	27,292
91 UNION COLLEGE	596	71I	52I	28I	13I	363I	13I	39I	17I
92 ATLANTA UNIVERSITY	562	0	149	0	0	219	0	21	173
93 MANHATTAN COLLEGE	553	95	34	388	0	36	0	0	0
94 INST TEXTILE TECHNOLOGY	550	360	50	60	80	0	0	0	0
95 UNIVERSITY OF TULSA	534	416	6	69	0	4	0	39	0
96 REGIS COLLEGE	532	C	0	532	0	0	0	0	0
97 CLAREMONT GRAD SCHOOL	497	0	0	0	152	15	211	119	0
98 ALFRED UNIVERSITY	468	243	57	168	0	0	0	0	0
99 THE WRIGHT INSTITUTE	465I	65I	37I	16I	6I	278I	8I	40I	15I
100 OCCIDENTAL COLLEGE	397E	0	47E	277E	0	32E	0	41E	0
TOTAL 1ST 100 INSTS.	1,410,317	190,491	173,326	81,280	42,416	790,894	27,074	77,339	27,497
TOTAL ALL OTHER INSTS.	13,236	1,008	2,776	827	568	4,383	1,340	1,824	510

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-26. FEDERALLY FINANCED R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	1,103,412	142,449	150,101	70,805	37,204	614,561	23,377	47,512	17,403
1 MASS INST OF TECHNOLOGY	85,066	29,915	24,335	6,733	7,142	12,387	1,555	1,903	1,096
2 STANFORD UNIVERSITY	71,115	15,074	12,018	3,115	3,452	30,885	1,161	4,206	1,204
3 COLUMBIA UNIV MAIN DIV	58,973	2,498	4,034	12,735	410	31,520	526	1,685	5,565
4 HARVARD UNIVERSITY	55,485	1,370	7,835	3,712	755	36,673	1,078	3,686	376
5 JOHNS HOPKINS UNIVERSITY	50,445	1,260	2,673	1,315	178	43,277	422	1,320	0
6 UNIV OF PENNSYLVANIA	47,313	3,445	5,325	266	1,435	31,969	538	3,944	391
7 UNIVERSITY OF CHICAGO	46,109	0	9,694	1,758	1,041	30,735	1,002	1,879	0
8 CORNELL UNIVERSITY	45,895	6,186	11,115	1,029	1,014	24,445	159	1,865	82
9 YALE UNIVERSITY	42,237	1,548	4,913	620	857	31,033	1,232	2,034	0
10 NEW YORK UNIVERSITY	36,922	0	1,661	46	4,022	27,888	306	1,749	1,250
TOTAL 1ST 10 INSTS.	539,560	61,296	83,603	31,329	20,306	300,812	7,979	24,271	9,964
11 UNIVERSITY OF ROCHESTER	33,502	6,175	4,542	123	322	20,716	620	545	459
12 WASHINGTON UNIVERSITY	33,138	4,859	1,360	108	99	26,106	323	283	0
13 CALIFORNIA INST OF TECH	29,090	6,275	12,312	4,726	577	4,808	0	388	0
14 UNIV OF STHRN CALIFORNIA	28,319	6,867	1,189	1,140	86	16,499	471	2,067	0
15 DUKE UNIVERSITY	27,127	794	1,580	1,240	318	21,804	381	1,010	0
16 UNIVERSITY OF MIAMI	24,815	1,242	283	6,040	18	16,651	45	355	181
17 YESHIVA UNIVERSITY	24,627E	0I	770I	0I	385I	22,634I	838I	0I	0I
18 BAYLOR COLLEGE OF MED	21,063	0	0	0	0	21,063	0	0	0
19 NORTHWESTERN UNIVERSITY	20,988	2,956	3,208	254	594	10,030	767	566	2,613
20 CASE WESTERN RESERVE UNIV	19,713	5,523	2,185	337	126	10,826	179	537	0
TOTAL 1ST 20 INSTS.	801,942	95,991	111,032	45,297	22,831	471,949	11,603	30,022	13,217
21 WOODS HOLE OCNGRPHIC INST	17,392	1,643	0	15,749	0	0	0	0	0
22 PRINCETON UNIVERSITY	16,861	4,613	5,579	1,629	1,108	2,167	693	1,072	0
23 GEORGE WASHINGTON UNIV	16,844	3,019	235	373	3,388	5,948	185	2,972	724
24 BOSTON UNIVERSITY	16,824	159	1,126	0	243	14,439	84	191	582
25 VANDERBILT UNIVERSITY	16,042	485	831	67	22	13,959	336	338	0
26 ROCKEFELLER UNIVERSITY	14,403	0	804	0	82	11,864	1,653	0	0
27 CARNEGIE-MELLON UNIV	12,232	4,249	2,872	0	2,957	619	554	981	0
28 EMORY UNIVERSITY	11,475	0	282	26	14	11,081	35	37	0
29 BROWN UNIVERSITY	9,846	2,203	1,952	1,049	1,224	2,234	572	612	0
30 UNIVERSITY OF DAYTON	9,000	5,195	2,308	70	715	248	28	158	278
TOTAL 1ST 30 INSTS.	942,861	117,561	127,021	64,260	32,584	534,508	15,743	36,383	14,801
31 ST LOUIS UNIV	8,295I	347I	66I	383I	0I	6,856I	144I	339I	160I
32 TULANE UNIVERSITY	7,493	286	100	7	144	6,539	176	144	97
33 BRANDEIS UNIVERSITY	6,840	0	1,153	0	143	3,952	189	1,163	240
34 UNIVERSITY OF DENVER	6,452	1,890	1,367	36	182	146	420	2,410	1
35 DARTMOUTH COLLEGE	6,400	547	314	348	70	5,001	66	24	30
36 THOM JEFFERSON UNIV	6,147	0	0	0	0	6,147	0	0	0
37 GEORGETOWN UNIVERSITY	6,117	0	670	0	7	4,892	0	346	202
38 SYRACUSE UNIVERSITY	5,624	2,446	858	0	431	887	214	695	93
39 UNIVERSITY OF NOTRE DAME	5,475	1,075	3,288	13	112	903	13	29	42
40 TUFTS UNIVERSITY	5,346	124	319	0	0	4,561	8	334	0
TOTAL 1ST 40 INSTS.	1,007,050	124,276	135,156	65,047	33,673	574,392	16,973	41,867	15,666
41 RENSSELAER POLY INST	5,231	3,370	788	153	269	155	34	11	451E
42 NEW YORK MEDICAL COLLEGE	5,011	0	0	0	0	5,011	0	0	0
43 RICE UNIVERSITY	4,963	1,085	2,256	266	220	933	0	196	7
44 MED COLLEGE OF WISCONSIN	4,221	0	0	0	0	4,221	0	0	0
45 WAKE FOREST UNIVERSITY	3,931	0	21	0	0	3,866	25	19	0
46 ALBANY MED COLLEGE	3,917	0	0	0	0	3,917	0	0	0
47 LEHIGH UNIVERSITY	3,512	1,923	589	152	238	98	0	0	512
48 POLYTECHNIC INST OF N Y	3,327	2,519	661	0	74	73	0	0	0
49 BOSTON COLLEGE	3,068	0	636	837	929	221	25	139	281
50 NORTHEASTERN UNIVERSITY	3,066	1,176	989	0	42	314	274	271	0
TOTAL 1ST 50 INSTS.	1,047,297	134,349	141,096	66,455	35,445	593,201	17,331	42,503	16,917

SEE FOOTNOTES AT END OF TABLE.

TABLE B-26. FEDERALLY FINANCED R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 HOWARD UNIVERSITY	2,934	109	135	0	0	2,500	0	190	0
52 DREXEL UNIVERSITY	2,549	1,405	728	203	92	121	0	0	0
53 RUSH UNIVERSITY	2,518	2	0	0	0	2,516	0	0	0
54 TEXAS CHRISTIAN UNIV	2,500	0I	390I	0I	3I	27I	2,051I	27I	2I
55 MANNEMANN MED COL & HOSP	2,475	0	0	0	0	2,475	0	0	0
56 STEVENS INSTITUTE OF TECH	2,388	1,842	431	0	6	0	0	109	0
57 ILLINOIS INST OF TECH	2,099	733	812	156	134	251	13	0	0
58 AMERICAN UNIVERSITY	2,088	0	535	0	45	170	35	1,303	0
59 CATHOLIC UNIV OF AMERICA	1,832	642	537	0	4	90	150	409	0
60 LOMA LINDA UNIVERSITY	1,796	0	0	0	429	1,110	257	0	0
TOTAL 1ST 60 INSTS.	1,070,476	139,082	144,664	66,814	36,158	602,461	19,837	44,541	16,919
61 LOYOLA UNIVERSITY	1,663	0	22	0	0	1,395	55	191	0
62 GEO PEABODY COL TEACHERS	1,557	0	0	0	0	0	1,557	0	0
63 BRIGHAM YOUNG UNIVERSITY	1,425	345	655	37	2	291	0	95	0
64 CLARKSON COL OF TECH	1,419	722	543	0	154	0	0	0	0
65 THE MED COLL OF PENNA	1,419	0	0	0	0	1,419	0	0	0
66 SOUTHERN METHODIST UNIV	1,392	470	0	387	147	86	7	255	0
67 MEHARRY MEDICAL COLLEGE	1,204	0I	0I	0I	0I	1,204I	0I	0I	0I
68 CLARK UNIVERSITY	902	0	196	0	19	45	226	416	0
69 WESLEYAN UNIVERSITY	877	0	261	5	44	373	21	137	36
70 WENTWORTH INSTITUTE	863	0	0	863	0	0	0	0	0
TOTAL 1ST 70 INSTS.	1,083,157	140,619	146,341	68,106	36,524	607,274	21,703	45,635	16,955
71 TUSKEGEE INSTITUTE	833	121	0	0	0	712	0	0	0
72 CREIGHTON UNIVERSITY	806	0	0	0	0	806	0	0	0
73 UNIVERSITY OF SANTA CLARA	767	425	54	169	18	8	0	82	11
74 NOVA UNIVERSITY	765	0	0	727E	0	38E	0E	0	0
75 WORCESTER POLY INSTITUTE	747	341	108	0	8	280	0	10	0
76 FORDHAM UNIVERSITY	744I	0I	275I	0I	28I	189I	0I	232I	20I
77 EMMANUEL COLLEGE	723	0	723	0	0	0	0	0	0
78 UNIVERSITY OF THE PACIFIC	636	0I	0I	22I	0I	614I	0I	0I	0I
79 UNIV OF SOUTH ALABAMA	621	C	15	0	0	606	0	0	0
80 REGIS COLLEGE	532	0	0	532	0	0	0	0	0
TOTAL 1ST 80 INSTS.	1,090,331	141,506	147,516	69,556	36,578	610,527	21,703	45,959	16,986
81 AMHERST COLLEGE	531	0	214	19	0	219	4	75	0
82 UNIV OF SAN FRANCISCO	529	0	403	0	78	48	0	0	0
83 MARQUETTE UNIVERSITY	526	52I	14I	0I	9I	215I	0I	236I	0I
84 ATLANTA UNIVERSITY	476	0	84	0	0	219	0	0	173
85 GALLAUDET COLLEGE	456	0	104	0	0	0	0	352	0
86 U HLTH SCI/CHCGO MED SCH	424	0	0	0	0	424	0	0	0
87 MANHATTAN COLLEGE	409	0	14	368	0	27	0	0	0
88 COLUMBIA UNIV TCHRS COL	340	0	0	0	0	0	339	1	0
89 NEW SCH FOR SOC RESEARCH	334	0	0	0	0	0	334	0	0
90 REED COLLEGE	327	C	48	0	0	249	21	3	6
TOTAL 1ST 90 INSTS.	1,094,683	141,558	148,397	69,943	36,665	611,928	22,401	46,626	17,165
91 CLAREMONT GRAD SCHOOL	321	0	0	0	152	15	154	0	0
92 POMONA COLLEGE	303	0	107	0	27	117	27	25	0
93 FLORIDA INST OF TECH	293	215	3	75	0	0	0	0	0
94 NEW YORK INST TECH	280	206	29	0	0	0	0	0	45
95 SMITH COLLEGE	279	C	3	2	0	189	85	0	0
96 DUQUESNE UNIVERSITY	270	0	89	0	0	181	0	0	0
97 SWARTHMORE COLLEGE	269	26	78	0	87	3	66	4	5
98 BRYN MAWR COLLEGE	250	0	8	24	0	34	137	47	0
99 WILLIAMS COLLEGE	247	0	65	31	0	26	75	0	50
100 ADELPHI UNIV	232	0I	167I	0I	27I	38I	0I	0I	0I
TOTAL 1ST 100 INSTS.	1,097,427	142,005	148,946	70,075	36,958	612,531	22,945	46,702	17,265
TOTAL ALL OTHER INSTS.	5,985	444	1,155	730	246	2,030	432	810	133

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-27. ENGINEERING R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	498,606	432,961	382,176	347,970	336,211	290,689	260,154	240,063
1 MASS INST OF TECHNOLOGY	36,936	33,591	31,002	26,032	29,915	25,C47	24,190	20,722
2 GEORGIA INSTITUTE OF TECH	18,904	14,507	10,334	8,574	10,384	7,107	5,547	4,186
3 STANFORD UNIVERSITY	16,971	14,662	12,044	9,502	15,074	12,816	10,840	9,017
4 UNIVERSITY OF MICHIGAN	15,812	14,800	12,766	13,602	10,665	1C,176	7,765	8,476
5 UNIVERSITY OF ROCHESTER	14,562	8,284	3,242	3,075	6,175	3,174	1,154	916
6 UNIV ILLINOIS URBANA	14,184	14,537	11,669	13,067	11,235	11,457	8,492	10,416
7 U OF CAL BERKELEY	13,430	12,518	11,449	10,546	10,806	9,739	8,365	7,838
8 TEXAS A & M UNIVERSITY	11,866	10,064	9,084	10,852	5,693	3,274	3,622	5,006
9 PURDUE UNIV ALL CAMPUSES	11,309	11,067	9,501	8,002	8,323	8,149	6,375	5,592
10 PENNSYLVANIA STATE UNIV	9,344	5,602	4,723	4,424	5,492	3,161	2,517	2,228
TOTAL 1ST 10 INSTS.	163,318	139,632	115,814	107,676	113,762	94,100	78,867	74,397
11 OHIO STATE UNIVERSITY	8,877	8,472	7,717	6,812	5,C97	4,595	4,526	3,899
12 CALIFORNIA INST OF TECH	7,849	6,201	5,302	4,625	6,279	4,961	4,255	3,840
13 PRINCETON UNIVERSITY	7,332	5,831	5,238	4,795	4,613	4,401	4,268	3,610
14 UNIV OF STHRN CALIFORNIA	7,325	7,824	6,899	6,313	6,867	7,508	6,479	5,981
15 UNIV OF TEXAS AT AUSTIN	7,311	7,708	6,443	6,142	3,790	3,704	3,496	3,005
16 CASE WESTERN RESERVE UNIV	7,281	6,854	5,935	4,841	5,523	5,236	4,933	4,172
17 CORNELL UNIVERSITY	7,096	7,213	6,303	5,504	6,186	6,545	5,739	4,909
18 CARNEGIE-MELLON UNIV	6,636	5,488	5,096	4,401	4,249	3,456	3,209	2,649
19 UNIV OF WISCONSIN-MADISON	6,561	5,696	5,061	3,876	2,376	2,247	1,897	1,477
20 COLORADO STATE UNIVERSITY	6,449	5,990	5,601	4,719	4,984	4,966	4,491	3,843
TOTAL 1ST 20 INSTS.	236,035	206,909	175,409	159,704	163,726	141,719	122,160	111,782
21 NEW MEXICO STATE UNIV	6,392	4,996	4,556	4,002	5,894	4,399	4,081	3,867
22 U OF CAL LOS ANGELES	6,374	6,103	5,687	5,321	5,750	5,313	5,046	4,748
23 COLUMBIA UNIV MAIN DIV	6,294	5,678	5,407	3,681	2,498	2,306	1,987	1,754
24 UNIVERSITY OF MINNESOTA	5,970	5,081	5,444	5,169	3,831	3,366	3,194	3,159
25 IOWA ST U OF SCI & TECH	5,956	5,173	4,345	3,932	2,231	1,527	1,338	1,098
26 UNIVERSITY OF DAYTON	5,873	3,595	3,656	3,083	5,195	3,370E	3,507	2,960
27 UNIVERSITY OF UTAH	5,685	5,814	2,467	4,643	4,344	4,635	2,089	3,568
28 WASHINGTON UNIVERSITY	5,153	4,657	4,082	4,192	4,859	4,441	3,844	3,911
29 UNIVERSITY OF FLORIDA	4,841	4,614	4,363	4,301	2,981	2,844	2,272	2,004
30 UNIVERSITY OF NEW MEXICO	4,708	3,048	2,393	1,994	3,799	2,506	2,155	1,837
TOTAL 1ST 30 INSTS.	293,281	255,668	217,809	200,022	205,108	176,426	151,673	140,688
31 VA POLYTECH INST & ST U	4,673	4,612	3,416	2,453	2,720	2,704	1,959	1,393
32 UNIV OF PENNSYLVANIA	4,541	4,583	4,002	3,659	3,445	2,875	2,461	2,124
33 RENSSELAER POLY INST	4,511	689I	3,571E	3,186E	3,370	537I	2,900E	2,794E
34 UNIV OF MD COLLEGE PARK	4,503	3,489	3,297	3,067	2,930	2,373	2,186	2,038
35 UNIVERSITY OF VIRGINIA	4,344E	3,620	3,207	3,321	3,434E	2,862	2,409	2,495
36 UTAH STATE UNIVERSITY	4,335	4,318	4,266	4,372	3,371	3,515	3,533	3,471
37 N C STATE UNIV AT RALEIGH	4,257	3,559	3,013	2,891	1,961	2,063	1,844	1,335
38 OKLAHOMA STATE UNIVERSITY	4,225	3,456	3,305	3,210	2,724	2,327	2,086	1,831
39 U OF CAL DAVIS	3,960	3,623	3,202	3,060	1,523	1,390	1,046	1,191
40 WASHINGTON STATE UNIV	3,904	3,191	3,595	3,061	1,486	1,389	745	835
TOTAL 1ST 40 INSTS.	336,534	290,808	252,683	232,302	232,072	198,461	172,842	160,195
41 UNIVERSITY OF WASHINGTON	3,819	3,593	4,501	4,485	3,077	2,486	3,816	3,919
42 POLYTECHNIC INST OF N Y	3,683	2,841E	2,841	3,275	2,519	2,708E	2,708	3,004
43 UNIV OF MISSOURI ROLLA	3,660	3,932	2,829	2,649	1,823	2,061	1,603	1,699
44 LEHIGH UNIVERSITY	3,528	3,639	3,103	2,897	1,923	2,100	1,957	1,804
45 UNIVERSITY OF DELAWARE	3,414	2,769	2,037	1,798	2,290	1,661	1,182	1,093
46 NORTHWESTERN UNIVERSITY	3,330	2,997	2,240	2,247	2,956	2,600	2,053	1,744
47 WEST VIRGINIA UNIVERSITY	3,291	3,582	2,257	2,076	2,100	2,566	1,689	1,303
48 UNIV OF KENTUCKY ALL CAM	3,174I	2,586	2,471	1,137E	1,477I	1,377	1,456	885E
49 GEORGE WASHINGTON UNIV	3,050	2,439	2,006	1,851	3,019	2,387	1,981	1,768
50 MICHIGAN TECH UNIVERSITY	2,970	2,980	2,320	2,057	1,200	1,129	795	721
TOTAL 1ST 50 INSTS.	370,453	322,166	279,288	256,774	254,456	219,536	192,082	178,135

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. ENGINEERING R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 UNIVERSITY OF CONNECTICUT	2,863	2,265	2,350	1,974	1,080	986	803	720
52 TEXAS TECH UNIVERSITY	2,722	2,249	2,277	1,663	1,805	1,041	912	511
53 SYRACUSE UNIVERSITY	2,717	2,422	2,364	1,827	2,446	2,224	2,261	1,686
54 U TENNESSEE KNOXVILLE	2,533	2,120	3,115	2,574	1,749	1,447	2,659	2,112
55 STEVENS INSTITUTE OF TECH	2,500	2,115	2,221	2,362	1,842	1,649	1,530	1,491
56 BROWN UNIVERSITY	2,482	1,047	1,740	1,813	2,203	990	1,654	1,787
57 UNIVERSITY OF DENVER	2,454	1,861	2,697	2,957	1,890	1,486	2,260	2,204
58 CLEMSON UNIVERSITY	2,363	2,056	2,234	949	741	588	629	486
59 OREGON STATE UNIVERSITY	2,341	2,046	1,641	1,248	1,189	1,125	904	708
60 UNIVERSITY OF ARIZONA	2,302	2,071	1,600	1,833	1,370	1,216	796	982
TOTAL 1ST 60 INSTS.	395,730	342,418	301,527	275,974	270,771	232,288	206,490	190,822
61 UNIV OF MISSOURI COLUMBIA	2,184	1,899	1,238	1,359	954	763	512	556
62 WORCESTER POLY INSTITUTE	2,124	2,021	1,819	1,349	341	482	308	312
63 UNIVERSITY OF CINCINNATI	2,108	2,108	1,637	1,528	1,357	1,429	1,132	1,091
64 UNIVERSITY OF PITTSBURGH	2,025	1,808	1,096	767	1,404	1,520	874	571
65 U OF CAL SAN DIEGO	2,008	2,178	2,144	722	1,537	2,085	2,116	684
66 DREXEL UNIVERSITY	1,957	1,492	1,370	1,320	1,405	946	861	861
67 COLORADO SCHOOL OF MINES	1,925	2,106	1,922	556	1,343	1,652	1,653	466
68 MICHIGAN STATE UNIVERSITY	1,882	1,791	714	1,002	745	590	372	727
69 UNIV OF HAWAII-MANOA	1,880	2,734	1,904	1,986	1,392	2,235	1,341	1,550
70 AUBURN UNIVERSITY	1,872	1,520	1,464	1,236	1,397	940	1,074	764
TOTAL 1ST 70 INSTS.	415,695	362,075	316,835	287,799	283,046	244,930	216,733	198,404
71 SUNY AT BUFFALO	1,861	1,744	991	862	1,507	1,380	868	790
72 UNIVERSITY OF KANSAS	1,840	1,775	1,572	2,152	1,360	1,439	1,395	1,658
73 UNIVERSITY OF COLORADO	1,832	1,615	1,591	2,628	1,347	1,169	1,229	1,982
74 UNIV OF NEBRASKA - LNCLN	1,804	1,510	1,310	1,089	419	350	255	209
75 KANSAS ST UNIVERSITY	1,792	1,267	1,110	1,097	640	494	403	450
76 YALE UNIVERSITY	1,756	1,612	1,503	1,606	1,548	1,370	1,339	1,502
77 MISSISSIPPI STATE UNIV	1,744	1,270	1,040	859	985	529	458	412
78 UNIV OF ILL CHICAGO CIR	1,716	1,076	1,235	836	1,183	834	1,064	761
79 WOODS HOLE OCNGRPHIC INST	1,687	2,714	2,916	2,492	1,643	2,650	2,732	2,443
80 WAYNE STATE UNIVERSITY	1,665	1,543	1,138	1,090	1,022	596	644	605
TOTAL 1ST 80 INSTS.	433,392	378,201	331,241	302,510	294,700	256,141	227,120	209,216
81 UNIVERSITY OF IOWA	1,663	660	565	612	772	647	532	592
82 UNIVERSITY OF HOUSTON	1,641	1,034	1,072	717	1,228	906	863	603
83 LOUISIANA ST UNIV SYSTEM	1,631	1,540	1,553	1,252	452	511	413	468
84 SUNY AT STONY BROOK	1,628	1,257	1,871	996	912	1,033	1,429	851
85 UNIV OF MASS AT AMHERST	1,606	1,890	1,505	1,924	1,106	1,284	1,020	1,036
86 MONTANA STATE UNIVERSITY	1,574	1,386	1,090	722	945	872	445	438
87 UNIVERSITY OF MIAMI	1,547	1,743	1,425	1,048	1,242	1,237	1,075	720
88 HARVARD UNIVERSITY	1,470	1,026	904	1,013	1,370	945	690	818
89 FLORIDA TECH UNIV	1,448	1,006	242	207	152	87	105	128
90 US NAVAL POSTGRAD SCHOOL	1,438	1,102	1,037	1,390	1,438	1,102	1,037	1,390
TOTAL 1ST 90 INSTS.	449,038	390,845	342,509	312,391	304,317	264,765	234,729	216,260
91 RICE UNIVERSITY	1,433	1,097	1,265	1,189	1,085	764	1,016	1,010
92 JOHNS HOPKINS UNIVERSITY	1,394	522	781	759	1,260	494	742	622
93 N MEX INST MINING & TECH	1,387	835	1,053	1,047	1,189	835	948	833
94 NORTHEASTERN UNIVERSITY	1,344	883	915	986	1,176	805	829	897
95 UNIVERSITY OF IDAHO	1,333	1,133	876	731	699	529	420	298
96 INSTITUTE PAPER CHEMISTRY	1,270	1,078	712	563	11	136	0	0
97 UNIVERSITY OF NOTRE DAME	1,252	962	1,058	968	1,075	787	850	851
98 UNIV OF RHODE ISLAND	1,200	633	766	705	1,075	537	605	618
99 RUTGERS THE STATE UNIV	1,197	1,312E	1,364	1,557	639	624E	596	620
100 CITY COLLEGE OF CUNY	1,186	1,005	1,067	2311	881	809	853	1721
TOTAL 1ST 100 INSTS.	462,034	400,305	352,366	321,127	313,407	271,085	241,588	222,181
TOTAL ALL OTHER INSTS.	36,572	32,656	29,810	26,843	22,804	19,604	18,566	17,882

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-28. PHYSICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL				ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
	1977	1976	1975	1974				
UNITED STATES TOTAL	426,689	379,123	350,745	333,851	32,336	163,522	200,908	29,923
1 MASS INST OF TECHNOLOGY	28,020	25,568	22,572	20,671	1,914	4,735	21,261	110
2 CALIFORNIA INST OF TECH	13,736	10,353	9,108	7,908	1,982	5,143	6,611	0
3 U OF CAL BERKELEY	12,260	11,491	11,777	9,934	1,342	3,090	1,449	6,379
4 CORNELL UNIVERSITY	12,133	10,816	9,892	9,756	1,062	3,047	7,291	733
5 STANFORD UNIVERSITY	12,119	11,590	10,641	9,671	0	2,659	9,460	0
6 UNIVERSITY OF CHICAGO	10,521	9,644	9,228	9,007	350	2,789	5,729	1,653
7 UNIV OF WISCONSIN-MADISON	10,386	10,304	10,345	9,593	507	4,925	4,032	922
8 UNIVERSITY OF ARIZONA	10,299	9,263	7,962	8,491	1,290	1,512	5,588	1,909
9 U OF CAL SAN DIEGO	9,137	8,830	9,929	9,682	0	3,344	4,245	1,548
10 UNIV OF TEXAS AT AUSTIN	8,981	8,373	8,330	7,076	3,638	2,361	2,982	0
TOTAL 1ST 10 INSTS.	127,592	116,232	109,784	101,789	12,085	33,605	68,648	13,254
11 HARVARD UNIVERSITY	8,947	9,304	9,127	8,886	1,548	2,958	4,441	0
12 UNIVERSITY OF UTAH	8,083	2,770	2,154	3,044	0	7,149	934	0
13 UNIVERSITY OF COLORADO	7,838	9,074	8,725	8,163	5,497	992	1,342	7
14 UNIV OF MD COLLEGE PARK	7,714	7,407	7,205	5,930	0	1,389	6,325	0
15 U OF CAL LOS ANGELES	7,502	5,699	5,222	4,421	209	2,563	4,564	166
16 UNIVERSITY OF ALASKA	7,075	3,002	2,545	1,908	71	14	3,063	3,927
17 PRINCETON UNIVERSITY	6,455	7,206	6,471	6,185	2,027	1,508	2,920	0
18 UNIV ILLINOIS URBANA	6,343	5,646	6,410	4,774	408	2,438	3,497	0
19 CARNEGIE-MELLON UNIV	6,299	6,210	5,605	5,852	0	4,425	1,874	0
20 UNIV OF PENNSYLVANIA	6,254	5,806	5,326	4,734	14	973	4,123	1,144
TOTAL 1ST 20 INSTS.	200,102	178,356	168,574	155,686	21,859	58,014	101,731	18,498
21 MICHIGAN STATE UNIVERSITY	6,104	4,644	3,073	3,048	133	1,266	2,716	1,989
22 UNIVERSITY OF ROCHESTER	5,545	4,713	4,921	4,831	0	1,987	3,558	0
23 UNIVERSITY OF MINNESOTA	5,444	4,640	4,175	4,278	231	1,667	3,546	0
24 YALE UNIVERSITY	5,027	4,723	4,829	5,170	256	1,532	3,239	0
25 TEXAS A & M UNIVERSITY	4,746	4,494	4,221	3,536	0	3,894	852	0
26 INDIANA UNIV-BLOOMINGTON	4,577	4,237	3,752	2,712	95	1,601	2,881	0
27 GEORGIA INSTITUTE OF TECH	4,423	3,793	3,075	2,992	0	2,013	2,410	0
28 PURDUE UNIV ALL CAMPUSES	4,417	3,784	3,270	3,217	0	2,545	1,872	0
29 COLUMBIA UNIV MAIN DIV	4,346	3,932	3,551	3,989	131	2,975	1,240	0
30 UNIVERSITY OF WASHINGTON	3,949	3,810E	4,227	3,864	193	846	2,910	0
TOTAL 1ST 30 INSTS.	248,680	221,126	207,668	193,323	22,898	78,340	126,955	20,487
31 UNIVERSITY OF PITTSBURGH	3,859	3,013	3,394	2,846	60	1,542	2,257	0
32 UNIV OF MASS AT AMHERST	3,600	3,029	2,326	2,724	839	1,922	839	0
33 UNIV OF HAWAII-MANOA	3,536	3,237	3,015	2,959	2,415	413	708	0
34 NORTHWESTERN UNIVERSITY	3,467	2,014	2,172	2,566	19	1,250	879	1,319
35 UNIVERSITY OF NOTRE DAME	3,431	2,962	2,549	2,394	0	2,560	871	0
36 UNIVERSITY OF MICHIGAN	3,378	3,903	3,419	3,313	441	851	2,086	0
37 IOWA ST U OF SCI & TECH	3,339	2,903	1,655	1,136	0	736	2,603	0
38 SUNY AT STONY BROOK	3,338	2,440	2,098	2,171	384	1,201	1,753	0
39 UNIVERSITY OF IOWA	3,333	3,689	3,237	3,410	226	511	2,596	0
40 FLORIDA STATE UNIVERSITY	3,308	3,282	2,519	4,113	0	1,470	1,492	346
TOTAL 1ST 40 INSTS.	283,269	251,598	234,052	220,955	27,282	90,796	143,039	22,152
41 U OF CAL IRVINE	3,253	3,213	2,600	2,227	0	1,376	1,836	41
42 OHIO STATE UNIVERSITY	3,166	2,614	2,478	2,272	17	2,015	1,134	0
43 RUTGERS THE STATE UNIV	2,918	3,091E	3,213	3,635	0	649	2,237	32
44 RICE UNIVERSITY	2,819	2,723	3,003	3,230	1,094	1,033	692	0
45 JOHNS HOPKINS UNIVERSITY	2,766	2,493	2,407	2,409	0	1,160	1,606	0
46 UNIVERSITY OF CONNECTICUT	2,679	1,154	779	462	0	1,313	1,366	0
47 U OF CAL SANTA CRUZ	2,620	2,231	3,058E	2,844	1,429	722	469	0
48 UNIVERSITY OF DAYTON	2,602	2,325	1,428	1,848	0	105	2,497	0
49 UNIVERSITY OF HOUSTON	2,565	1,353	1,233	1,008	0	1,025	613	927
50 CASE WESTERN RESERVE UNIV	2,518	2,570	2,458	2,027	155	1,199	1,164	0
TOTAL 1ST 50 INSTS.	311,175	275,365	256,709	242,917	29,977	101,393	156,653	23,152

SEE FOOTNOTES AT END OF TABLE.

TABLE B-28. PHYSICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL				ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
	1977	1976	1975	1974				
51 UNIVERSITY OF VIRGINIA	2,514E	2,095	1,843	1,880	113E	1,354E	1,047E	0
52 BROWN UNIVERSITY	2,183	1,080	1,631	1,527	0	914	1,269	0
53 UNIV OF NC AT CHAPEL HILL	2,177	2,155	1,499	1,264	0	1,471	706	0
54 LOUISIANA ST UNIV SYSTEM	2,155	1,890	2,010	2,133	0	927	1,228	0
55 PENNSYLVANIA STATE UNIV	2,153	3,313	3,241	3,021	38	1,452	363	300
56 UNIVERSITY OF WYOMING	2,083	2,068	1,570	1,358	0	124	1,959	0
57 U OF CAL SANTA BARBARA	2,081	2,367	1,668	1,423	0	859	833	389
58 UNIVERSITY OF OREGON	1,918	1,918	1,480	1,333	0	738	948	232
59 UNIVERSITY OF DENVER	1,826	1,523	1,132	1,229	0	602	1,224	0
60 DUKE UNIVERSITY	1,747	1,682	1,740	1,672	0	613	1,134	0
TOTAL 1ST 60 INSTS.	332,012	295,456	274,523	259,757	30,128	110,447	167,364	24,073
61 ROCKEFELLER UNIVERSITY	1,741	1,731	1,430	1,492	0	660	1,081	0
62 VA POLYTECH INST & ST U	1,739	1,441	669	2,403	0	987	542	210
63 NEW YORK UNIVERSITY	1,692	1,774	1,923	2,015	0	476	1,216	0
64 UNIVERSITY OF GEORGIA	1,649	1,749	754	716	0	1,311	338	0
65 WAYNE STATE UNIVERSITY	1,641	1,365	1,117	1,016	0	1,280	250	111
66 TEMPLE UNIVERSITY	1,562	1,255	1,214	492	0	379	290	893
67 COLORADO STATE UNIVERSITY	1,555	1,283	955	756	0	1,100	455	0
68 UNIV OF NEW HAMPSHIRE	1,534	1,327	1,124	849	946	169	185	234
69 LEHIGH UNIVERSITY	1,419	891	694	677	0	120	368	931
70 WASHINGTON UNIVERSITY	1,409	1,482	1,358	1,371	0	389	1,020	0
TOTAL 1ST 70 INSTS.	347,953	309,754	285,761	271,544	31,074	117,318	173,109	26,452
71 U OF CAL DAVIS	1,394	1,163	1,037	1,188	0	630	764	0
72 UNIVERSITY OF KANSAS	1,330	779	719	1,539	0	1,102	228	0
73 UNIV OF STHRN CALIFORNIA	1,312	1,275	1,166	751	0	764	475	73
74 NORTHEASTERN UNIVERSITY	1,312	1,102	891	880	0	549	763	0
75 U TENNESSEE KNOXVILLE	1,283	1,094	978	716	0	653	630	0
76 BRANDEIS UNIVERSITY	1,201	1,126	1,303	1,482	0	684	517	0
77 MONTANA STATE UNIVERSITY	1,192	1,096	565	423	0	710	404	78
78 U TEX CAN CTR MDA H & TI	1,188	813	782	631	0	0	1,188	0
79 U OF CAL RIVERSIDE	1,186	1,208	1,056	1,431	0	454	732	0
80 UNIVERSITY OF FLORIDA	1,186	1,011	884	1,538	0	769	412	5
TOTAL 1ST 80 INSTS.	360,537	320,421	295,142	282,123	31,074	123,633	179,222	26,608
81 BOSTON UNIVERSITY	1,184	761	740	551	156	763	265	0
82 UNIV OF MISSOURI ROLLA	1,149	866	890	1,014	0	261	888	0
83 SUNY AT ALBANY	1,145	1,084	1,182	876	310	437	398	0
84 OREGON STATE UNIVERSITY	1,136	947	891	821	0	1,018	118	0
85 ARIZONA STATE UNIVERSITY	1,125	974	987	875	0	922	203	0
86 SUNY AT BUFFALO	1,062	858	708	771	0	966	96	0
87 RENSSELAER POLY INST	1,055	698I	1,344E	1,199E	0	811	244	0
88 CITY COLLEGE OF CUNY	1,040	997	826	206I	0	309	731	0
89 UNIVERSITY OF DELAWARE	1,014	1,035	915	906	0	775	239	0
90 NORTH TEXAS STATE UNIV	941	728	483	403	0	439	277	225
TOTAL 1ST 90 INSTS.	371,388	329,373	304,108	289,745	31,540	130,334	182,681	26,833
91 VANDERBILT UNIVERSITY	936	902	829	748	0	401	535	0
92 SYRACUSE UNIVERSITY	892	905	941	849	0	296	596	0
93 OKLAHOMA STATE UNIVERSITY	886	772	741	488	0	545	341	0
94 WASHINGTON STATE UNIV	884	1,262	778	1,270	0	589	295	0
95 DREXEL UNIVERSITY	872	644	458	601	0	431	441	0
96 U OF CAL SAN FRANCISCO	850	98	0	0	0	850	0	0
97 UNIV OF NEBRASKA - LNCLN	846	1,562	860	490	4	391	451	0
98 ILLINOIS INST OF TECH	846	610	613	575	0	456	357	33
99 UNIV OF SOUTH CAROLINA	841	709	639	302	0	803	38	0
100 GEORGETOWN UNIVERSITY	832	536	517	676	0	640	192	0
TOTAL 1ST 100 INSTS.	380,073	337,373	310,484	295,744	31,544	135,726	185,927	26,866
TOTAL ALL OTHER INSTS.	46,616	41,750	40,261	38,107	792	27,786	14,981	3,057

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-29. FEDERALLY FINANCED PHYSICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL				ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
	1977	1976	1975	1974				
UNITED STATES TOTAL	340,724	303,868	285,002	270,190	23,133	124,323	171,118	22,150
1 MASS INST OF TECHNOLOGY	24,335	21,680	19,712	17,779	0	4,351	15,879	105
2 CALIFORNIA INST OF TECH	12,312	9,305	8,204	7,400	1,924	4,322	6,066	0
3 STANFORD UNIVERSITY	12,018	11,248	10,130	9,345	0	2,581	9,437	0
4 U OF CAL BERKELEY	11,275	10,563	10,942	8,984	1,000	2,742	1,374	6,159
5 CORNELL UNIVERSITY	11,115	9,992	9,112	9,071	955	2,888	6,575	697
6 UNIVERSITY OF CHICAGO	9,694	9,083	8,681	8,439	260	2,684	5,489	1,261
7 U OF CAL SAN DIEGO	8,626	8,502	9,641	9,457	0	3,064	4,184	1,378
8 HARVARD UNIVERSITY	7,835	8,325	8,317	8,489	1,386	2,566	3,883	0
9 UNIVERSITY OF ARIZONA	7,380	6,554	5,801	5,915	438	1,145	4,370	1,427
10 U OF CAL LOS ANGELES	7,202	5,475	4,977	4,181	204	2,408	4,452	138
TOTAL 1ST 10 INSTS.	111,792	100,731	95,517	89,060	6,167	28,751	65,709	11,165
11 UNIVERSITY OF COLORADO	6,779	7,715	7,591	6,392	4,797	902	1,080	0
12 UNIVERSITY OF UTAH	6,487	2,498	1,882	2,007	0	5,636	851	0
13 UNIV OF MD COLLEGE PARK	6,452	6,738	6,621	5,500	0	959	5,493	0
14 UNIV OF WISCONSIN-MADISON	5,594	5,879	5,799	5,615	250	2,156	2,723	465
15 PRINCETON UNIVERSITY	5,579	5,883	5,300	5,232	1,720	1,113	2,746	0
16 UNIV ILLINOIS URBANA	5,468	4,851	4,358	4,143	301	2,045	3,122	0
17 UNIV OF TEXAS AT AUSTIN	5,342	4,848	5,195	4,452	2,058	1,286	1,998	0
18 UNIV OF PENNSYLVANIA	5,325	5,113	4,463	4,194	13	762	3,453	1,097
19 YALE UNIVERSITY	4,913	4,645	4,642	4,939	250	1,455	3,208	0
20 UNIVERSITY OF ALASKA	4,912	2,215	1,734	302	44	4	2,098	2,766
TOTAL 1ST 20 INSTS.	168,643	151,120	143,102	131,836	15,600	45,069	92,481	15,493
21 MICHIGAN STATE UNIVERSITY	4,629	3,190	2,978	2,974	14	1,063	1,600	1,952
22 UNIVERSITY OF MINNESOTA	4,567	4,307	3,890	4,001	195	1,279	3,093	0
23 UNIVERSITY OF ROCHESTER	4,542	3,915	4,015	3,915	0	1,519	3,023	0
24 INDIANA UNIV-BLOOMINGTON	4,370	3,936	3,534	2,479	87	1,481	2,802	0
25 COLUMBIA UNIV MAIN DIV	4,034	3,475	3,119	3,619	116	2,747	1,171	0
26 PURDUE UNIV ALL CAMPUSES	3,950	3,412	2,946	2,951	0	2,170	1,780	0
27 UNIVERSITY OF PITTSBURGH	3,461	2,856	3,167	2,676	59	1,328	2,074	0
28 UNIVERSITY OF WASHINGTON	3,456	3,221E	3,957	3,722	189	768	2,499	0
29 UNIVERSITY OF NOTRE DAME	3,288	2,796	2,403	2,318	0	2,461	827	0
30 NORTHWESTERN UNIVERSITY	3,208	1,748	1,950	2,241	16	1,068	815	1,309
TOTAL 1ST 30 INSTS.	208,148	183,976	175,061	162,732	16,276	60,953	112,165	18,754
31 U OF CAL IRVINE	3,122	3,113	2,517	2,123	0	1,297	1,825	0
32 SUNY AT STONY BROOK	3,083	2,152	2,015	1,903	353	1,050	1,680	0
33 UNIVERSITY OF IOWA	2,969	3,561	3,067	3,297	206	393	2,370	0
34 TEXAS A & M UNIVERSITY	2,945	2,797	2,697	2,411	0	2,205	740	0
35 CARNEGIE-MELLON UNIV	2,872	3,091	2,743	2,611	0	1,079	1,793	0
36 UNIV OF MASS AT AMHERST	2,784	2,275	1,902	2,052	738	1,308	738	0
37 UNIVERSITY OF MICHIGAN	2,771	3,125	2,958	2,983	433	604	1,734	0
38 OHIO STATE UNIVERSITY	2,716	2,531	2,230	2,191	12	1,738	966	0
39 JOHNS HOPKINS UNIVERSITY	2,673	2,420	2,279	1,976	0	1,102	1,571	0
40 UNIV OF HAWAII-MANOA	2,559	2,309	2,278	2,240	1,453	398	708	0
TOTAL 1ST 40 INSTS.	236,642	211,350	199,747	186,519	19,471	72,127	126,290	18,754
41 GEORGIA INSTITUTE OF TECH	2,420	1,852	1,651	1,462	0	1,075	1,345	0
42 UNIVERSITY OF DAYTON	2,308	1,905	1,408	1,773	0	93	2,215	0
43 RICE UNIVERSITY	2,256	2,220	2,476	2,521	1,037	550	669	0
44 RUTGERS THE STATE UNIV	2,250	1,988E	1,899	2,009	0	620	1,606	24
45 CASE WESTERN RESERVE UNIV	2,185	2,245	2,220	1,922	128	973	1,084	0
46 UNIV OF NC AT CHAPEL HILL	2,153	2,119	1,420	1,254	0	1,448	705	0
47 UNIVERSITY OF VIRGINIA	2,037E	1,697	1,469	1,414	88E	1,080E	869E	0
48 BROWN UNIVERSITY	1,952	1,049	1,554	1,462	0	777	1,175	0
49 PENNSYLVANIA STATE UNIV	1,903	2,706	2,577	2,478	38	1,309	347	209
50 U OF CAL SANTA BARBARA	1,901	2,165	1,569	1,325	0	793	809	299
TOTAL 1ST 50 INSTS.	258,007	231,296	217,990	204,139	20,762	80,845	137,114	19,286

SEE FOOTNOTES AT END OF TABLE.

TABLE B-29. FEDERALLY FINANCED PHYSICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL				ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
	1977	1976	1975	1974				
51 UNIVERSITY OF WYOMING	1,802	1,825	1,278	1,144	0	123	1,679	0
52 NEW YORK UNIVERSITY	1,661	1,705	1,818	1,907	0	458	1,203	0
53 FLORIDA STATE UNIVERSITY	1,647E	1,747E	1,587	3,480	0	727E	799E	121E
54 DUKE UNIVERSITY	1,580	1,493	1,510	1,464	0	505	1,075	0
55 U OF CAL SANTA CRUZ	1,429	1,096	1,919E	1,801	335	663	431	0
56 WAYNE STATE UNIVERSITY	1,414	1,171	975	862	0	1,172	242	0
57 UNIVERSITY OF OREGON	1,413	1,482	1,433	1,303	0	564	679	170
58 UNIVERSITY OF DENVER	1,367	1,183	948	911	0	425	942	0
59 WASHINGTON UNIVERSITY	1,360	1,456	1,324	1,321	0	375	985	0
60 UNIVERSITY OF HOUSTON	1,337	709	932	802	0	537	504	296
TOTAL 1ST 60 INSTS.	273,017	245,163	231,714	219,134	21,097	86,394	145,653	19,873
61 TEMPLE UNIVERSITY	1,285	1,047	961	415	0	314	250	721
62 UNIV OF NEW HAMPSHIRE	1,240	977	975	768	913	156	148	23
63 COLORADO STATE UNIVERSITY	1,240	1,164	853	636	0	853	387	0
64 U OF CAL DAVIS	1,198	958	811	987	0	549	649	0
65 UNIV OF STHRN CALIFORNIA	1,189	1,205	1,094	714	0	722	440	27
66 U TENNESSEE KNOXVILLE	1,168	954	869	668	0	560	608	0
67 LOUISIANA ST UNIV SYSTEM	1,158	950	1,017	982	3	661	497	0
68 VA POLYTECH INST & ST U	1,157	981	230	1,210	0	674	372	111
69 BRANDEIS UNIVERSITY	1,153	1,057	1,257	1,442	0	639	514	0
70 BOSTON UNIVERSITY	1,126	749	652	472	156	750	220	0
TOTAL 1ST 70 INSTS.	284,931	255,245	240,433	227,428	22,166	92,272	149,738	20,755
71 U OF CAL RIVERSIDE	1,120	1,123	1,009	1,403	0	421	699	0
72 UNIVERSITY OF KANSAS	1,109	661	595	1,494	0	920	189	0
73 UNIVERSITY OF FLORIDA	1,046	890	832	1,177	0	686	360	0
74 ARIZONA STATE UNIVERSITY	1,043	958	866	631	0	849	194	0
75 SUNY AT ALBANY	1,037	1,010	1,108	807	310	412	315	0
76 MONTANA STATE UNIVERSITY	1,023	968	400	324	0	619	404	0
77 UNIVERSITY OF CONNECTICUT	1,011	502	410	258	0	495	516	0
78 NORTHEASTERN UNIVERSITY	989	896	664	674	0	422	567	0
79 SUNY AT BUFFALO	974	784	672	685	0	894	80	0
80 OREGON STATE UNIVERSITY	886	728	646	597	0	802	84	0
TOTAL 1ST 80 INSTS.	295,169	263,765	247,635	235,478	22,476	98,792	153,146	20,755
81 UNIVERSITY OF GEORGIA	862	940	646	467	0	711	151	0
82 SYRACUSE UNIVERSITY	858	889	916	838	0	276	582	0
83 WASHINGTON STATE UNIV	837	847	719	846	0	547	290	0
84 VANDERBILT UNIVERSITY	831	826	699	604	0	328	503	0
85 ILLINOIS INST OF TECH	812	566	567	521	0	429	350	33
86 ROCKEFELLER UNIVERSITY	804	838	664	601	0	331	473	0
87 U OF CAL SAN FRANCISCO	792	93E	0	0	0	792	0	0
88 RENSSELAER POLY INST	788	611I	1,237E	1,192E	0	605	183	0
89 UNIV OF NEBRASKA - LNCLN	771	813	769	392	0	347	424	0
90 YESHIVA UNIVERSITY	770I	783	1,072	989	0I	193I	577I	0I
TOTAL 1ST 90 INSTS.	303,294	270,971	254,924	241,928	22,476	103,351	156,679	20,788
91 DREXEL UNIVERSITY	728	436	328	335	0	368	360	0
92 EMMANUEL COLLEGE	723	470	446	409	0	0	723E	0
93 CITY COLLEGE OF CUNY	680	823	700	173I	0	143	537	0
94 NEW MEXICO STATE UNIV	680	559	452	443	143	396	126	15
95 GEORGETOWN UNIVERSITY	670	454	485	548	0	569	101	0
96 UNIV OF SOUTH CAROLINA	666	501	380	181	0	631	35	0
97 POLYTECHNIC INST OF N Y	661	438E	438	392	0	530	131	0
98 U TEX CAN CTR MDA H & TI	660	446	469	330	0	0	660	0
99 BRIGHAM YOUNG UNIVERSITY	655	156I	373E	404	0	554	64	37
100 WRIGHT STATE UNIV	653	420	109	57	0	648	5	0
TOTAL 1ST 100 INSTS.	310,070	275,674	259,104	245,200	22,619	107,190	159,421	20,840
TOTAL ALL OTHER INSTS.	30,654	28,194	25,898	24,990	514	17,133	11,697	1,310

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-30. CHEMISTRY R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	163,522	140,041	120,976	116,026	124,323	107,216	92,706	88,692
1 UNIVERSITY OF UTAH	7,149	1,868	1,394	2,036	5,636	1,633	1,283	1,280
2 CALIFORNIA INST OF TECH	5,143	3,860	3,234	2,559	4,322	3,244	2,722	2,324
3 UNIV OF WISCONSIN-MADISON	4,925	4,536	5,033	4,494	2,156	2,100	2,536	2,249
4 MASS INST OF TECHNOLOGY	4,735	4,298	3,740	2,878	4,351	3,887	3,436	2,633
5 CARNEGIE-MELLON UNIV	4,425	4,231	3,729	4,162	1,079	1,552	1,294	1,365
6 TEXAS A & M UNIVERSITY	3,894	4,132	2,153	1,663	2,205	2,464	1,317	1,172
7 U OF CAL SAN DIEGO	3,344	3,176	2,904	2,582	3,064	2,922	2,671	2,412
8 U OF CAL BERKELEY	3,090	2,948	2,674	2,607	2,742	2,629	2,504	2,297
9 CORNELL UNIVERSITY	3,047	2,702	2,548	2,476	2,888	2,547	2,399	2,336
10 COLUMBIA UNIV MAIN DIV	2,975	2,562	2,285	1,953	2,747	2,186	1,993	1,751
TOTAL 1ST 10 INSTS.	42,727	34,313	29,694	27,410	31,190	25,164	22,155	19,819
11 HARVARD UNIVERSITY	2,958	3,187	2,850	2,519	2,566	2,916	2,610	2,318
12 UNIVERSITY OF CHICAGO	2,789	2,473	2,596	2,689	2,684	2,348	2,362	2,558
13 STANFORD UNIVERSITY	2,659	2,238	1,664	1,414	2,581	2,197	1,626	1,345
14 U OF CAL LOS ANGELES	2,563	2,355	2,106	2,022	2,408	2,265	1,947	1,883
15 UNIVERSITY OF NOTRE DAME	2,560	1,992	1,597	1,486	2,461	1,873	1,531	1,423
16 PURDUE UNIV ALL CAMPUSES	2,545	2,171	1,818	1,846	2,170	1,883	1,578	1,662
17 UNIV ILLINOIS URBANA	2,438	2,068	1,960	1,987	2,045	1,832	1,722	1,756
18 UNIV OF TEXAS AT AUSTIN	2,361	1,954	1,866	1,558	1,286	918	758	650
19 OHIO STATE UNIVERSITY	2,015	1,687	1,599	1,472	1,738	1,610	1,377	1,393
20 GEORGIA INSTITUTE OF TECH	2,013	1,590	990	1,331	1,075	803	531	653
TOTAL 1ST 20 INSTS.	67,628	56,028	48,740	45,734	52,204	43,809	38,197	35,460
21 UNIVERSITY OF ROCHESTER	1,987	1,537	1,292	1,474	1,519	1,221	964	1,095
22 UNIV OF MASS AT AMHERST	1,922	1,619	1,162	1,306	1,308	1,131	846	946
23 UNIVERSITY OF MINNESOTA	1,667	1,443	1,256	1,028	1,279	1,288	1,067	924
24 INDIANA UNIV-BLOOMINGTON	1,601	1,535	1,403	1,549	1,481	1,357	1,240	1,361
25 UNIVERSITY OF PITTSBURGH	1,542	1,129	1,120	798	1,328	1,037	1,017	717
26 YALE UNIVERSITY	1,532	1,346	1,653	1,670	1,455	1,329	1,558	1,579
27 UNIVERSITY OF ARIZONA	1,512	1,361	1,339	1,226	1,145	1,017	1,087	811
28 PRINCETON UNIVERSITY	1,508	1,628	1,494	1,379	1,113	1,068	1,050	922
29 UNIV OF NC AT CHAPEL HILL	1,471	1,422	1,206	997	1,448	1,386	1,146	987
30 FLORIDA STATE UNIVERSITY	1,470	1,475	884	1,288	727E	788E	587	1,043
TOTAL 1ST 30 INSTS.	83,840	70,523	61,549	58,449	65,007	55,431	48,759	45,845
31 PENNSYLVANIA STATE UNIV	1,452	1,324	1,155	1,261	1,309	1,150	967	1,077
32 UNIV OF MD COLLEGE PARK	1,349	1,568	1,540	1,269	959	1,125	1,243	1,005
33 U OF CAL IRVINE	1,376	1,119	856	1,629	1,297	1,062	814	1,592
34 UNIVERSITY OF VIRGINIA	1,354E	1,128	881	1,003	1,080E	900	696	732
35 UNIVERSITY OF CONNECTICUT	1,313	462	343	165	495	201	176	88
36 UNIVERSITY OF GEORGIA	1,311	1,443	694	655	711	825	586	422
37 WAYNE STATE UNIVERSITY	1,280	1,028	892	766	1,172	950	861	719
38 MICHIGAN STATE UNIVERSITY	1,266	1,221	952E	1,022	1,063	842	878	976
39 NORTHWESTERN UNIVERSITY	1,250	1,231	1,287	1,615	1,068	1,043	1,128	1,528
40 SUNY AT STONY BROOK	1,201	1,009	73	987	1,050	907	73	807
TOTAL 1ST 40 INSTS.	97,032	82,056	70,222	68,821	75,211	64,436	56,181	54,791
41 CASE WESTERN RESERVE UNIV	1,199	1,250	1,249	1,069	973	979	1,040	981
42 JOHNS HOPKINS UNIVERSITY	1,160	1,107	1,092	1,177	1,102	1,048	1,001	965
43 UNIVERSITY OF KANSAS	1,102	526	453	1,061E	920	455	370	1,061
44 COLORADO STATE UNIVERSITY	1,100	881	667	580	853	766	568	469
45 RICE UNIVERSITY	1,033	1,109	1,079	1,193	550	645	594	519
46 UNIVERSITY OF HOUSTON	1,025	1,353	574	427	537	709	291	238
47 OREGON STATE UNIVERSITY	1,018	842	784	715	802	657	568	517
48 UNIVERSITY OF COLORADO	992	1,401	1,211	1,054	902	1,146	1,011	780
49 VA POLYTECH INST & ST U	987	553	305	301	674	415	127	223
50 UNIV OF PENNSYLVANIA	973	1,037	870	711	762	785	614	628
TOTAL 1ST 50 INSTS.	107,621	92,115	78,506	77,109	83,286	72,041	62,365	61,172

SEE FOOTNOTES AT END OF TABLE.

TABLE B-30. CHEMISTRY R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 SUNY AT BUFFALO	966	784	630	641	894	717	598	565
52 LOUISIANA ST UNIV SYSTEM	927	825	753	904	661	555	514	441
53 ARIZONA STATE UNIVERSITY	922	705	599	569	849	699	512	396
54 BROWN UNIVERSITY	914	426	556	483	777	395	486	429
55 U OF CAL SANTA BARBARA	859	973	607	500	793	921	568	455
56 UNIVERSITY OF MICHIGAN	851	1,247	826	751	604	841	635	642
57 U OF CAL SAN FRANCISCO	850	98	0	0	792	93E	0	0
58 UNIVERSITY OF WASHINGTON	846	640	826	585	768	538	744	522
59 SUNY COL OF ENV SCI & FOR	832	802	758	434	601	481	381	162
60 RENSSELAER POLY INST	811	248I	1,014E	905E	605	201I	907E	898E
TOTAL 1ST 60 INSTS.	116,399	98,863	85,075	82,881	90,630	77,482	67,710	65,682
61 UNIV OF SOUTH CAROLINA	803	672	574	263	631	477	328	143
62 UNIVERSITY OF DELAWARE	775	716	632	607	423	501	365	366
63 UNIVERSITY OF FLORIDA	769	631	569	648	686	575	522	487
64 UNIV OF STHRN CALIFORNIA	764	719	727	428	722	664	662	392
65 BOSTON UNIVERSITY	763	517	605	466	750	501	517	387
66 UNIVERSITY OF OREGON	738	802	602	567	564	562	579	554
67 IOWA ST U OF SCI & TECH	736	640	557	623	269	184	176	295
68 U OF CAL SANTA CRUZ	722	572	15	0	663	515	0	0
69 TEXAS TECH UNIVERSITY	716	360	397	419	252	203	82	127
70 MONTANA STATE UNIVERSITY	710	80C	340	0	619	695	196	0
TOTAL 1ST 70 INSTS.	123,895	105,298	90,093	86,902	96,209	82,359	71,137	68,433
71 BRANDEIS UNIVERSITY	684	665	651	737	639	637	612	697
72 TEXAS CHRISTIAN UNIV	677I	358	205	113	388I	217	47	7
73 UNIV OF NEW ORLEANS	672	512	401	411	619	321	297	346
74 WRIGHT STATE UNIV	671	425	129	66	648	420	107	54
75 ROCKEFELLER UNIVERSITY	660	679	580	665	331	380	308	263
76 CLARKSON COL OF TECH	659	565	542	501E	498	474	380	360E
77 U TENNESSEE KNOXVILLE	653	599	488	310	560	459	398	283
78 RUTGERS THE STATE UNIV	649	683E	710	714	620	476E	455	422
79 GEORGETOWN UNIVERSITY	640	392	365	480	569	364	346	384
80 POLYTECHNIC INST OF N Y	635	285E	285	308	530	271E	271	283
TOTAL 1ST 80 INSTS.	130,495	110,461	94,449	91,207	101,611	86,378	74,358	71,532
81 U OF CAL DAVIS	630	497	461	464	549	441	386	398
82 DUKE UNIVERSITY	613	476	510	365	505	389	410	298
83 UNIVERSITY OF DENVER	602	384	273	55	425	273	227	35
84 WASHINGTON STATE UNIV	589	972	230	676	547	567	185	576
85 BRIGHAM YOUNG UNIVERSITY	576	109I	557E	472	554	48I	298E	323
86 NORTHEASTERN UNIVERSITY	549	493	255	214	422	457	194	175
87 UNIVERSITY OF CINCINNATI	547	352	253	255	410	197	106	140
88 OKLAHOMA STATE UNIVERSITY	545	469	367	198	377	284	195	82
89 UNIVERSITY OF IOWA	511	279	256	263	393	232	228	230
90 NEW YORK UNIVERSITY	476	420	436	376	458	385	362	294
TOTAL 1ST 90 INSTS.	136,133	114,912	98,047	94,545	106,251	89,651	76,949	74,083
91 UNIV OKLAHOMA	474	477	384	459	403	474	329	342
92 U OF WIS MILWAUKEE	467	524	346	290	255	274	125	98
93 UNIVERSITY OF AKRON	463	350	304	285	301	211	207	198
94 ILLINOIS INST OF TECH	456	321	273	253	429	291	236	229
95 U OF CAL RIVERSIDE	454	623	538	839	421	575	514	825
96 NORTH TEXAS STATE UNIV	439	410	289	240	113	185	51	41
97 SUNY AT ALBANY	437	430	395	291	412	411	371	267
98 DREXEL UNIVERSITY	431	426	283	273	368	289	208	183
99 NEW MEXICO STATE UNIV	419	297	256	220	396	249	217	204
100 KENT STATE UNIVERSITY	416	158	387	300	193	83	168	148
TOTAL 1ST 100 INSTS.	140,589	118,928	101,502	97,995	109,542	92,693	79,375	76,616
TOTAL ALL OTHER INSTS.	22,933	21,113	19,474	18,031	14,781	14,523	13,331	12,076

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-31. PHYSICS R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	200,908	182,903	173,651	169,359	171,118	155,348	149,879	146,515
1 MASS INST OF TECHNOLOGY	21,261	19,487	17,263	16,369	19,879	17,729	15,953	15,146
2 STANFORD UNIVERSITY	9,460	9,352	8,977	8,257	9,437	9,051	8,504	8,000
3 CORNELL UNIVERSITY	7,291	6,390	5,690	5,632	6,575	5,807	5,140	5,162
4 CALIFORNIA INST OF TECH	6,611	4,538	4,077	4,093	6,066	4,163	3,742	3,872
5 UNIV OF MD COLLEGE PARK	6,325	5,839	5,665	4,661	5,493	5,613	5,378	4,495
6 UNIVERSITY OF CHICAGO	5,729	5,548	5,183	4,707	5,489	5,314	4,933	4,301
7 UNIVERSITY OF ARIZONA	5,588	5,026	4,207	4,629	4,370	3,881	3,429	3,870
8 U OF CAL LOS ANGELES	4,564	3,218	3,003	2,272	4,452	3,086	2,920	2,183
9 HARVARD UNIVERSITY	4,441	4,499	4,573	4,583	3,883	3,930	4,149	4,411
10 U OF CAL SAN DIEGO	4,245	4,645	5,872	5,383	4,184	4,623	5,846	5,341
TOTAL 1ST 10 INSTS.	75,515	68,542	64,510	60,586	69,828	63,197	59,994	56,781
11 UNIV OF PENNSYLVANIA	4,123	3,780	3,347	2,886	3,453	3,387	2,820	2,513
12 UNIV OF WISCONSIN-MADISON	4,032	3,973	3,792	3,331	2,723	2,647	2,471	2,264
13 UNIVERSITY OF ROCHESTER	3,558	3,176	3,629	3,357	3,023	2,694	3,051	2,820
14 UNIVERSITY OF MINNESOTA	3,546	3,125	2,919	3,250	3,093	2,951	2,823	3,077
15 UNIV ILLINOIS URBANA	3,497	3,173	4,028	2,490	3,122	2,742	2,456	2,239
16 YALE UNIVERSITY	3,239	3,184	2,982	3,381	3,208	3,129	2,922	3,247
17 UNIVERSITY OF ALASKA	3,063	1,300	1,194	900	2,098	947	823	136
18 UNIV OF TEXAS AT AUSTIN	2,982	3,228	3,608	3,073	1,998	2,204	2,620	2,287
19 PRINCETON UNIVERSITY	2,920	3,414	3,312	3,064	2,746	2,959	2,785	2,739
20 UNIVERSITY OF WASHINGTON	2,910	2,973E	2,603	2,484	2,499	2,500E	2,576	2,478
TOTAL 1ST 20 INSTS.	109,385	99,868	95,924	88,802	97,791	89,357	85,341	80,581
21 INDIANA UNIV-BLOOMINGTON	2,881	2,650	2,319	1,147	2,802	2,530	2,266	1,102
22 MICHIGAN STATE UNIVERSITY	2,716	2,559	2,065	2,008	1,600	1,727	2,044	1,980
23 IOWA ST U OF SCI & TECH	2,603	2,263	1,098	513	313	214	166	105
24 UNIVERSITY OF IOWA	2,596	3,137	2,981	3,147	2,370	3,063	2,839	3,067
25 UNIVERSITY OF DAYTON	2,497	1,395	1,190	1,472	2,215	1,123	1,180	1,413
26 GEORGIA INSTITUTE OF TECH	2,410	2,203	2,085	1,661	1,345	1,049	1,120	809
27 UNIVERSITY OF PITTSBURGH	2,257	1,850	2,274	2,048	2,074	1,785	2,150	1,959
28 RUTGERS THE STATE UNIV	2,237	2,405E	2,500	2,920	1,606	1,512E	1,444	1,587
29 UNIVERSITY OF MICHIGAN	2,086	2,139	2,177	2,142	1,734	1,782	1,916	1,925
30 UNIVERSITY OF WYOMING	1,959	1,981	1,289	963	1,679	1,738	1,062	962
TOTAL 1ST 30 INSTS.	133,627	122,450	115,902	106,823	115,529	105,880	101,528	95,490
31 CARNEGIE-MELLON UNIV	1,874	1,979	1,876	1,690	1,793	1,539	1,449	1,246
32 PURDUE UNIV ALL CAMPUSES	1,672	1,613	1,452	1,371	1,780	1,529	1,368	1,289
33 U OF CAL IRVINE	1,836	2,076	1,725	565	1,825	2,051	1,703	531
34 SUNY AT STONY BROOK	1,753	1,431	1,338	1,171	1,680	1,245	1,296	1,096
35 JOHNS HOPKINS UNIVERSITY	1,606	1,386	1,315	1,232	1,571	1,372	1,278	1,011
36 FLORIDA STATE UNIVERSITY	1,492	1,495	1,148	1,316	799E	793E	758	1,162
37 U OF CAL BERKELEY	1,449	1,542	1,461	1,331	1,374	1,404	1,401	1,271
38 UNIVERSITY OF CONNECTICUT	1,366	692	436	297	516	301	234	170
39 UNIVERSITY OF COLORADO	1,342	1,413	1,300	6,525	1,080	1,210	1,141	5,145
40 BROWN UNIVERSITY	1,269	654	1,075	1,044	1,175	654	1,068	1,033
TOTAL 1ST 40 INSTS.	149,486	136,735	129,028	123,365	129,122	117,978	113,224	109,444
41 COLUMBIA UNIV MAIN DIV	1,240	1,222	1,151	1,799	1,171	1,157	1,031	1,706
42 LOUISIANA ST UNIV SYSTEM	1,228	1,065	1,257	1,229	497	395	503	541
43 UNIVERSITY OF DENVER	1,224	1,139	859	1,174	942	910	721	876
44 NEW YORK UNIVERSITY	1,216	1,354	1,487	1,639	1,203	1,320	1,456	1,613
45 U TEX CAN CTR MDA H & TI	1,188	813	782	631	660	446	469	330
46 CASE WESTERN RESERVE UNIV	1,164	1,165	1,083	861	1,084	1,136	1,083	859
47 DUKE UNIVERSITY	1,134	1,206	1,230	1,307	1,075	1,104	1,100	1,166
48 OHIO STATE UNIVERSITY	1,134	902	859	764	966	896	839	762
49 ROCKEFELLER UNIVERSITY	1,081	1,052	850	827	473	458	356	338
50 UNIVERSITY OF VIRGINIA	1,047E	873	864	757	869E	724	698	587
TOTAL 1ST 50 INSTS.	161,142	147,526	139,450	134,353	138,062	126,524	121,480	118,222

SEE FOOTNOTES AT END OF TABLE.

TABLE B-31. PHYSICS R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 WASHINGTON UNIVERSITY	1,020	1,058	990	1,032	985	1,047	986	1,017
52 UNIVERSITY OF OREGON	948	892	610	636	679	726	605	619
53 UNIVERSITY OF UTAH	934	892	603	739	851	865	599	458
54 UNIV OF MISSOURI ROLLA	888	777	792	892	399	328	317	369
55 NORTHWESTERN UNIVERSITY	879	738	803	627	815	668	748	591
56 UNIVERSITY OF NOTRE DAME	871	970	952	908	827	923	872	895
57 TEXAS A & M UNIVERSITY	852	362	251	691	740	333	157	478
58 UNIV OF MASS AT AMHERST	839	705	582	709	738	572	528	553
59 U OF CAL SANTA BARBARA	833	770	1,024	743	809	761	1,001	732
60 U OF CAL DAVIS	764	666	576	724	649	557	425	589
TOTAL 1ST 60 INSTS.	169,970	155,356	146,633	142,054	145,554	133,304	127,718	124,523
61 NORTHEASTERN UNIVERSITY	763	609	636	656	567	439	470	491
62 U OF CAL RIVERSIDE	732	585	518	592	699	548	495	578
63 CITY COLLEGE OF CUNY	731	834	585	1041	537	711	475	931
64 EMMANUEL COLLEGE	723E	470	446	409	723E	470	446	409
65 UNIV OF HAWAII-MANOA	708	601	535	564	708	601	535	564
66 UNIV OF NC AT CHAPEL HILL	706	733	293	267	705	733	274	267
67 RICE UNIVERSITY	692	619	811	837	669	613	800	821
68 OLD DOMINION UNIVERSITY	643	534	326	543	606	524	326	543
69 U TENNESSEE KNOXVILLE	630	495	490	406	608	495	471	385
70 UNIVERSITY OF HOUSTON	613	0	657	581	504	0	641	564
TOTAL 1ST 70 INSTS.	176,911	160,836	151,930	147,013	151,880	138,438	132,651	129,238
71 SYRACUSE UNIVERSITY	596	623	744	629	582	617	744	629
72 YESHIVA UNIVERSITY	577I	587	812	650	577I	587	812	650
73 CATHOLIC UNIV OF AMERICA	567	564	540	485	443	449	472	412
74 VA POLYTECH INST & ST U	542	447	339	444	372	225	100	210
75 VANDERBILT UNIVERSITY	535	553	651	503	503	522	572	406
76 BRANDEIS UNIVERSITY	517	461	652	745	514	420	645	745
77 UNIV OF STHRN CALIFORNIA	475	477	439	323	440	471	432	322
78 U OF CAL SANTA CRUZ	469	315	2	0	431	283	0	0
79 COLORADO STATE UNIVERSITY	455	395	288	176	387	391	285	167
80 UNIV OF NEBRASKA - LNCLN	451	524	405	345	424	396	386	285
TOTAL 1ST 80 INSTS.	182,095	165,782	156,802	151,313	156,553	142,799	137,099	133,064
81 DREXEL UNIVERSITY	441	218	175	285	360	147	120	117
82 STEVENS INSTITUTE OF TECH	415	506	513	599	368	434	460	427
83 UNIVERSITY OF FLORIDA	412	380	315	890	360	315	310	690
84 COLLEGE OF WILLIAM & MARY	411	343	238	68	409	288	200	64
85 US NAVAL POSTGRAD SCHOOL	408	91	367	283	408	91	367	283
86 MONTANA STATE UNIVERSITY	404	290	225	123	404	273	204	118
87 SUNY AT ALBANY	398	394	379	311	315	339	350	283
88 KENT STATE UNIVERSITY	392	68	292	308	217	51	157	169
89 LEHIGH UNIVERSITY	368	212	149	145	205	153	127	144
90 PENNSYLVANIA STATE UNIV	363	359	419	369	347	342	410	367
TOTAL 1ST 90 INSTS.	186,107	168,643	159,874	154,694	159,946	145,232	135,804	135,726
91 ILLINOIS INST OF TECH	357	289	296	322	350	275	287	292
92 BOSTON COLLEGE	351	253	452	356	337	246	346	248
93 OKLAHOMA STATE UNIVERSITY	341	303	374	290	216	173	206	194
94 UNIVERSITY OF GEORGIA	338	306	60	61	151	115	60	45
95 UNIV ALABAMA HUNTSVILLE	333	438	340	298	326	358	318	293
96 UNIVERSITY OF NEW MEXICO	325	313	248	218	287	301	248	196
97 TUFTS UNIVERSITY	314	252	345	323	307	249	344	317
98 WASHINGTON STATE UNIV	295	290	135	578	290	280	121	257
99 TEMPLE UNIVERSITY	290	257	287	293	250	222	235	248
100 OHIO UNIVERSITY	287	380	124	20	205	187	118	15
TOTAL 1ST 100 INSTS.	189,338	171,724	162,535	157,453	162,665	147,638	142,087	137,831
TOTAL ALL OTHER INSTS.	11,570	11,179	11,116	11,906	8,453	7,710	7,792	8,684

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SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-32. ENVIRONMENTAL SCIENCES R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	317,035	286,532	255,301	235,186	236,830	210,286	186,676	168,434
1 U OF CAL SAN DIEGO	47,946	45,262	40,966E	37,559	42,277	39,655	35,762	33,410
2 WOODS HOLE OCNGRPHIC INST	18,386	16,241	14,280	11,976	15,749	14,405	12,214	10,549
3 UNIVERSITY OF ALASKA	17,458	14,181	10,525	9,645	14,173	10,542	8,758	5,508
4 COLUMBIA UNIV MAIN DIV	13,232	12,046	10,428	8,980	12,735	11,565	10,235	8,745
5 UNIVERSITY OF WASHINGTON	10,593	10,923	5,025	8,356	9,416	9,913	4,301	7,941
6 UNIV OF WISCONSIN-MADISON	9,503	8,937	9,901	10,405	5,103	5,392	4,635	5,186
7 UNIV OF TEXAS AT AUSTIN	8,315	5,520	3,758	1,969	4,253	2,164	1,124	253
8 UNIVERSITY OF MIAMI	7,566	6,311	5,963	4,734	6,040	4,480	4,415	3,219
9 UNIV OF HAWAII-MANOA	7,314	6,565	6,486	5,518	5,205	4,501	4,627	3,706
10 UNIV OF RHODE ISLAND	7,232	4,847	4,599	3,684	7,132	4,555	3,891	3,330
TOTAL 1ST 10 INSTS.	147,545	130,837	111,931	102,826	122,083	107,172	87,962	81,847
11 MASS INST OF TECHNOLOGY	6,960	5,935	5,246	4,691	6,733	5,628	4,944	4,431
12 OREGON STATE UNIVERSITY	6,091	5,819	5,162	5,377	5,254	5,108	4,546	4,826
13 UNIV ILLINOIS URBANA	5,964	5,304	3,861	3,339	3,906	3,606	2,606	2,389
14 TEXAS A & M UNIVERSITY	5,681	5,011	4,925	4,222	4,584	3,705	3,996	2,982
15 CALIFORNIA INST OF TECH	5,671	3,140	3,369	3,156	4,726	2,617	2,818	2,593
16 PENNSYLVANIA STATE UNIV	5,288	6,971	5,145	4,322	3,660	4,320	2,914	2,409
17 U OF CAL LOS ANGELES	4,775	4,566	3,884	4,487	3,854	3,689	3,251	3,953
18 UNIVERSITY OF ARIZONA	4,623	4,159	3,703	3,600	1,918	1,703	1,195	1,277
19 UNIVERSITY OF MICHIGAN	4,469	4,745	5,677	3,165	2,388	2,717	4,012	1,768
20 HARVARD UNIVERSITY	4,086	2,919	3,505	3,959	3,712	2,611	3,209	3,839
TOTAL 1ST 20 INSTS.	201,153	179,406	156,408	143,144	162,818	142,876	121,453	112,314
21 STANFORD UNIVERSITY	3,466	2,763	2,677	2,414	3,115	2,540	2,406	2,207
22 UNIV OF NEBRASKA - LNCLN	3,389	2,483	1,499	1,425	1,580	1,008	841	829
23 LOUISIANA ST UNIV SYSTEM	3,368	2,675	2,175	1,995	1,287	1,319	1,183	1,062
24 DESERT RESEARCH INSTITUTE	2,979	3,555	3,049	2,881	1,901	1,416	1,306	1,458
25 UNIVERSITY OF FLORIDA	2,813	1,178	893	751	1,196	202	130	90
26 UNIVERSITY OF WYOMING	2,683	2,085	1,718	1,603	1,895	1,427	1,292	1,168
27 UNIV OF MASS AT AMHERST	2,378	2,467	1,711	1,949	847	1,083	677	716
28 FLORIDA STATE UNIVERSITY	2,338	2,314	2,068	1,420	1,670E	1,622E	1,420	1,195
29 JOHNS HOPKINS UNIVERSITY	2,318	4,009	4,624	5,271	1,315	2,820	2,812	4,323
30 COLORADO STATE UNIVERSITY	2,280	4,085	1,739	1,332	2,022	3,920	1,627	1,276
TOTAL 1ST 30 INSTS.	229,165	207,020	178,561	164,185	179,646	160,233	135,147	126,638
31 UNIV OF NC AT CHAPEL HILL	2,263	1,846	2,045	1,663	1,383	1,082	1,297	1,316
32 UNIVERSITY OF KANSAS	2,258	2,425	2,103	2,318	295	184	110	99
33 MICHIGAN STATE UNIVERSITY	2,189	2,025	1,717	897	799	774	645	351
34 UTAH STATE UNIVERSITY	2,180	974	1,313	1,461	1,946	792	1,055	1,011
35 UNIVERSITY OF DELAWARE	2,104	1,471	1,551	1,338	994	868	926	845
36 PRINCETON UNIVERSITY	2,052	1,977	1,682	1,284	1,629	1,572	1,294	858
37 UNIVERSITY OF UTAH	1,909	1,138	3,530	1,121	1,454	1,015	2,963	842
38 RUTGERS THE STATE UNIV	1,899	2,910E	3,025	2,843	509	858E	818	405
39 UNIVERSITY OF COLORADO	1,887	1,343	1,131	1,804	1,585	1,082	842	1,204
40 N C STATE UNIV AT RALEIGH	1,865	1,574	1,200	1,100	996	886	600	600
TOTAL 1ST 40 INSTS.	249,771	224,703	197,858	180,014	191,236	169,346	145,697	134,169
41 UNIVERSITY OF CHICAGO	1,785	1,666	1,853	1,605	1,758	1,637	1,812	1,564
42 UNIV OF SOUTH FLORIDA	1,701	501I	980	483	1,464	409I	378	111
43 UNIV OF MAINE ORONO	1,700	1,694	1,269	1,863E	1,455	956	745	1,331E
44 U OF CAL BERKELEY	1,620	1,703	1,804	875	965	1,097	1,188	685
45 UNIVERSITY OF GEORGIA	1,542	1,539	1,005	917	898	862	746	543
46 UNIV OF STHRN CALIFORNIA	1,497	2,407	1,860	1,584	1,140	1,743	1,366	1,190
47 SUNY AT ALBANY	1,484	1,328	1,361	1,298	900	561	577	781
48 UNIVERSITY OF MINNESOTA	1,465	1,141	790	748	776	720	551	512
49 VA POLYTECH INST & ST U	1,387	1,310	1,247	549	848	456	227	197
50 UNIVERSITY OF CONNECTICUT	1,303	968	1,158	1,022	492	421	342	318
TOTAL 1ST 50 INSTS.	265,255	238,960	211,185	190,958	201,932	178,208	153,629	141,401

SEE FOOTNOTES AT END OF TABLE.

TABLE B-32. ENVIRONMENTAL SCIENCES R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 DUKE UNIVERSITY	1,290	1,068	773	691	1,240	816	530	384
52 U OF WIS MILWAUKEE	1,256	952	988	946	198	214	260	307
53 U OF CAL SANTA BARBARA	1,188	891	645	551	888	784	590	500
54 AUBURN UNIVERSITY	1,170	896	1,014	1,098	1,062	688	529	627
55 SUNY AT STONY BROOK	1,164	1,247	847	1,029	1,027	1,098	714	907
56 BROWN UNIVERSITY	1,148	527	771	808	1,049	512	688	805
57 UNIVERSITY OF VIRGINIA	1,142E	952	983	862	598E	832	810	668
58 CORNELL UNIVERSITY	1,053	671	486	329	1,029	647	476	321
59 NOVA UNIVERSITY	1,007E	716	697	691	727E	585	634	670
60 OHIO STATE UNIVERSITY	964	881	852	810	609	546	548	507
TOTAL 1ST 60 INSTS.	276,637	247,761	219,241	198,773	210,759	184,930	159,408	147,107
61 BOSTON COLLEGE	959	477	405	470	837	475	305	400
62 MONTANA STATE UNIVERSITY	924	159	116	191	564	114	47	87
63 WENTWORTH INSTITUTE	913	868	988	1,073	863	827	951	1,073
64 U OF CAL RIVERSIDE	903	1,001	2,272E	2,035	734	850	1,123	1,077
65 UNIV OF MD CENTRAL OFF	875	870	1,219	625	82	54	257	66
66 UNIV OF NEW ORLEANS	864	1,123	424	248	499	824	405	238
67 N MEX INST MINING & TECH	798	949	1,053	1,241	542E	755	504	562
68 NEW MEXICO STATE UNIV	796	660	581	413	439	489	327	216
69 SUNY COLLEGE BUFFALO	746	719	721	665	720	703	597	427
70 UNIV OF NEW HAMPSHIRE	737	571	354	557	43	246	106	419
TOTAL 1ST 70 INSTS.	285,152	255,158	227,374	206,291	216,082	190,267	164,030	151,672
71 MONT COL MINRL SCI & TECH	726	553	403	197	676	409	258	130
72 UNIV OKLAHOMA	713	476	380	400	605	462	315	340
73 S DAK SCH MINES & TECH	700I	642	663	815	483I	443	582	650
74 US NAVAL POSTGRAD SCHOOL	687	739	418	417	680	732	418	417
75 SAN JOSE ST UNIV	670	677	443	320	335	383	252	246
76 YALE UNIVERSITY	667	711	783	855	620	656	737	725
77 UNIVERSITY OF NEW MEXICO	665	606	458	229	412	357	298	223
78 UNIV OF SOUTH CAROLINA	663	704	436	510	447	614	340	297
79 SUNY COL OF ENV SCI & FOR	649	561	520	709	333	180	95	176
80 SOUTHERN ILL U-CARBONDALE	559	445	162	146	80	19	15	33
TOTAL 1ST 80 INSTS.	291,851	261,272	232,040	210,889	220,753	194,522	167,340	154,909
81 REGIS COLLEGE	532	423	0	295	532	340	0	295
82 U OF CAL DAVIS	509	394	106	337	350	262	93	132
83 UNIV OF MISSOURI COLUMBIA	503	481	413	184	294	263	243	164
84 UNIVERSITY OF OREGON	495	306	258	321	293	231	230	269
85 UNIV OF NORTH DAKOTA	485	343	384	11	428	334	374	11
86 U OF CAL SANTA CRUZ	481	1,248	129	17	421	1,112	56	0
87 KANSAS ST UNIVERSITY	470	1,543	1,226	1,122	201	307	288	230
88 INSTITUTE PAPER CHEMISTRY	469	255	259	188	24	0	0	95
89 UNIV OF PENNSYLVANIA	460	349	288	212	266	173	125	147
90 PURDUE UNIV ALL CAMPUSES	454	452	372	358	401	395	331	337
TOTAL 1ST 90 INSTS.	296,709	267,066	235,475	213,934	223,963	197,939	169,080	156,589
91 UNIV OF ILL CHICAGO CIR	452	155	40	16	226	132	35	15
92 NORTH DAKOTA STATE UNIV	428	342	238	434	332	267	100	16
93 UNIV OF MD COLLEGE PARK	422	275	306	279	267	165	61	41
94 RICE UNIVERSITY	422	548	519	399	266	545	387	292
95 MANHATTAN COLLEGE	388	308	181	169	368	308	181	169
96 LEHIGH UNIVERSITY	387	297	242	285	152	120	119	195
97 SOUTHERN METHODIST UNIV	387E	360	459	460	387	307	293	291
98 U PUERTO RICO MAYAGUEZ	387E	369	418	349	267E	254	222	167
99 ST LOUIS UNIV	383I	351	318	241	383I	351	306	230
100 CASE WESTERN RESERVE UNIV	380	449	356	334	337	377	305	258
TOTAL 1ST 100 INSTS.	300,745	270,520	238,552	216,900	226,948	200,765	171,089	158,263
TOTAL ALL OTHER INSTS.	16,290	16,012	16,749	18,286	9,882	9,521	9,587	10,171

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-33. MATHEMATICAL AND COMPUTER SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	106,329	86,805	85,466	76,832	77,378	65,205	65,100	58,103
1 MASS INST OF TECHNOLOGY	8,802	8,263	7,448	7,856	7,142	7,594	6,673	6,971
2 UNIV ILLINOIS URBANA	4,900	3,479	3,553	3,742	4,315	2,804	2,853	3,208
3 NEW YORK UNIVERSITY	4,096	3,744	3,615	3,204	4,022	3,686	3,493	3,144
4 UNIV OF MD COLLEGE PARK	3,859	2,917	2,804	2,562	1,481	921	889	890
5 UNIV OF NC AT CHAPEL HILL	3,814	2,818	2,636	1,913	3,621	2,805	2,599	1,913
6 GEORGE WASHINGTON UNIV	3,650	3,187	3,642	1,763	3,388	3,007	3,460	1,613
7 STANFORD UNIVERSITY	3,619	3,322	3,202	3,103	3,452	3,235	3,143	3,075
8 PENNSYLVANIA STATE UNIV	3,425	276	186	192	307	248	171	183
9 NEW MEXICO STATE UNIV	3,226	2,735	2,806	971	3,214	2,681	2,763	912
10 CARNEGIE-MELLON UNIV	3,015	2,627	2,146	2,039	2,957	2,383	2,033	1,855
TOTAL 1ST 10 INSTS.	42,406	33,368	32,038	27,425	33,899	29,364	28,077	23,764
11 UNIV OF WISCONSIN-MADISON	2,897	2,647	2,320	2,316	1,717	1,437	1,499	1,578
12 U TEX CAN CTR MDA H & TI	2,468	1,813	1,479	1,263	1,471	988	841	634
13 UNIVERSITY OF MICHIGAN	1,857	1,553	1,649	1,592	665	582	992	730
14 SUNY AT BUFFALO	1,837	1,198	996	1,355	1,785	1,157	990	1,300
15 IOWA ST U OF SCI & TECH	1,818	1,579	1,384	1,318	567	388	354	296
16 FLORIDA STATE UNIVERSITY	1,753	1,481	1,628	795	365E	282E	260	551
17 UNIV OF PENNSYLVANIA	1,711	1,293	1,276	1,060	1,435	1,125	1,191	956
18 UNIVERSITY OF PITTSBURGH	1,496	76	99	99	902	76E	95	91
19 RUTGERS THE STATE UNIV	1,430	1,443E	1,500	1,188	1,071	975E	931	811
20 U OF CAL BERKELEY	1,368	1,369	1,347	1,226	1,092	1,143	1,114	1,092
TOTAL 1ST 20 INSTS.	61,041	47,820	45,716	39,637	44,969	37,517	36,344	31,803
21 BROWN UNIVERSITY	1,316	890	1,283	1,205	1,224	882	1,279	1,141
22 PRINCETON UNIVERSITY	1,286	1,411	1,266	1,119	1,108	964	946	814
23 MICHIGAN STATE UNIVERSITY	1,211	1,143	429	577	155	111	323	443
24 UNIVERSITY OF UTAH	1,104	1,316	1,466	2,303	755	1,252	1,447	2,100
25 UNIVERSITY OF COLORADO	1,086	471	753	870	484	381	525	389
26 UNIVERSITY OF CHICAGO	1,085	975	957	896	1,041	971	946	890
27 CORNELL UNIVERSITY	1,084	1,006	854	643	1,014	972	799	640
28 US NAVAL POSTGRAD SCHOOL	1,039	435	1,262E	465E	1,039	435	1,262E	465E
29 PURDUE UNIV ALL CAMPUSES	987	756	714	774	857	615	609	625
30 BOSTON COLLEGE	938	930	1,434	1,073	929	926	1,282	942
TOTAL 1ST 30 INSTS.	72,177	57,153	56,134	49,562	53,575	45,026	45,762	40,252
31 UNIVERSITY OF MINNESOTA	914	839	776	839	565	544	502	571
32 UNIV OF TEXAS AT AUSTIN	899	834	1,787	1,461	679	633	588	466
33 YALE UNIVERSITY	876	690	452	353	857	685	398	340
34 OHIO STATE UNIVERSITY	872	561	774	556	536	443	495	319
35 HARVARD UNIVERSITY	812	874	739	648	755	806	570	471
36 UNIVERSITY OF DAYTON	809	1,425	1,021	614	715	1,313	892	588
37 UNIVERSITY OF GEORGIA	800	794	596	561	377	342	462	332
38 UNIVERSITY OF WASHINGTON	779	408	612	441	712	355	529	386
39 GEORGIA INSTITUTE OF TECH	713	622	980	529	363	326	526	260
40 UNIV OF MASS AT AMHERST	678	670	405	551	408	382	344	357
TOTAL 1ST 40 INSTS.	80,329	64,870	64,276	56,115	59,542	50,855	51,068	44,342
41 U OF CAL LOS ANGELES	656	885	948	1,116	610	642	662	683
42 N C STATE UNIV AT RALEIGH	633	451	450	439	55	156	237	91
43 LOMA LINDA UNIVERSITY	631	407	350	235	429	276	320	192
44 CALIFORNIA INST OF TECH	629	308	241	193	577	283	222	183
45 SUNY AT STONY BROOK	615	495	530	404	486	400	459	329
46 NORTHWESTERN UNIVERSITY	598	410	384	355	594	407	372	344
47 GALLAUDET COLLEGE	577	0	0	0	0	0	0	0
48 UNIVERSITY OF IOWA	561	152	160	167	533	152	157	167
49 COLORADO STATE UNIVERSITY	543	319	265	224	341	173	115	146
50 ROCKEFELLER UNIVERSITY	534	627	571	491	82	98	0	0
TOTAL 1ST 50 INSTS.	86,306	68,928	68,175	59,739	63,249	53,442	53,612	46,477

SEE FOOTNOTES AT END OF TABLE.

TABLE B-33. MATHEMATICAL AND COMPUTER SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 UNIVERSITY OF ROCHESTER	504	548	301	234	322	306	258	201
52 SYRACUSE UNIVERSITY	491	505	459	678	431	505	428	651
53 UNIVERSITY OF FLORIDA	470	441	957	645	67	59	67	61
54 VA POLYTECH INST & ST U	461	453	397	297	230	219	7	121
55 COLUMBIA UNIV MAIN DIV	430	405	480	358	410	382	410	289
56 N J INST OF TECHNOLOGY	429	215	126	6	429	215	66	0
57 LOUISIANA ST UNIV SYSTEM	424	376	458	428	91	91	105	89
58 OREGON STATE UNIVERSITY	390	403	347	195	94	135	123	57
59 YESHIVA UNIVERSITY	385I	391	352	310	385I	391	352	310
60 UNIV OKLAHOMA	379	334	238	394	322	203	170	343
TOTAL 1ST 60 INSTS.	90,669	72,999	72,290	63,284	66,030	55,948	55,598	48,599
61 UNIVERSITY OF VIRGINIA	365E	304	282	413	319E	266	242	322
62 LEHIGH UNIVERSITY	365	328	219	297	238	239	168	222
63 RENSSELAER POLY INST	360	137I	262E	234E	269	121I	262E	234E
64 U OF ARKANSAS PINE BLUFF	350	286	222	0	0	0	0	0
65 KANSAS ST UNIVERSITY	333	197	158	53	277	184	144	29
66 UNIVERSITY OF CONNECTICUT	331	1,298	1,024	660	125	565	462	298
67 DUKE UNIVERSITY	320	217	142	166	318	209	139	161
68 INDIANA UNIV-BLOOMINGTON	313	220	228	299	305	205	216	288
69 U OF CAL SAN DIEGO	310	240	424	374	304	237	413	365
70 TEXAS A & M UNIVERSITY	297	286	183	113	240	269	142	90
TOTAL 1ST 70 INSTS.	94,013	76,512	75,434	65,893	68,425	58,243	57,786	50,608
71 UNIV OF ILL CHICAGO CIR	295	203	248	185	294	190	246	184
72 CITY COLLEGE OF CUNY	284	87	64	471	268	52	56	361
73 NEW YORK INST TECH	279	149	217	87	0	5	0	0
74 BOSTON UNIVERSITY	259	178	69	8	243	162	69	8
75 UNIVERSITY OF DENVER	256	333	159	228	182	140	118	190
76 U OF CAL SANTA BARBARA	227	273	412	767	156	154	308	485
77 UNIV OF NEBRASKA - LNCLN	226	208	21	28	34	41	18	15
78 RICE UNIVERSITY	220	341	383	280	220	307	382	280
79 CUNY QUEENS COLLEGE	218	178	84	67	203	168	71	47
80 UNIVERSITY OF HOUSTON	218	181	129	98	201	181	129	93
TOTAL 1ST 80 INSTS.	96,495	78,643	77,220	67,688	70,226	59,643	59,183	51,946
81 U OF CAL RIVERSIDE	215	225	299	327	89	120	217	232
82 MORGAN STATE UNIV	214	0	0	0	214	0	0	0
83 UNIVERSITY OF ARIZONA	211	190	186	209	178	158	115	133
84 U OF CAL IRVINE	208	115	69	204	208	115	69	204
85 CASE WESTERN RESERVE UNIV	202	204	99	110	126	148	84	105
86 UNIVERSITY OF KANSAS	184	131	131	162	153	105	103	108
87 JOHNS HOPKINS UNIVERSITY	183	139	104	122	178	129	103	100
88 UNIV OF SOUTH FLORIDA	183	112I	107	21	140	85I	47	16
89 WASHINGTON STATE UNIV	173	141	94	280	78	141	85	75
90 CLARKSON COL OF TECH	172	109	67	53	154	98	67	48
TOTAL 1ST 90 INSTS.	98,440	80,009	78,376	69,176	71,744	60,742	60,073	52,967
91 US AIR FORCE ACADEMY	171	145	129	200	171	145	129	200
92 TULANE UNIVERSITY	171	184	177	167	144	155	149	140
93 UNIV OF HAWAII-MANOA	169	151	177	201	169	151	177	201
94 CALIF STATE UNIV CHICO	167	59	13	1	0	1	0	1
95 CUNY GRAD SCH & UNIV CTR	166	149	183	106	149	144	169	93
96 SUNY BINGHAMTON	161	73	25	23	77	16	5	20
97 SOUTHERN METHODIST UNIV	157	160	214	277	147	130	214	256
98 COLLEGE OF WILLIAM & MARY	157	146	36	61	157	97	24	60
99 UNIV ALABAMA BIRMINGHAM	153	253	340	374	133	233	322	373
100 CLAREMONT GRAD SCHOOL	152	8	9	31	152	8	9	31
TOTAL 1ST 100 INSTS.	100,064	81,337	79,679	70,589	73,043	61,822	61,271	54,314
TOTAL ALL OTHER INSTS.	6,265	5,468	5,787	6,243	4,335	3,383	3,829	3,789

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-34. MATHEMATICS R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	51,183	42,367	39,861	37,642	39,900	32,334	31,221	29,405
1 UNIV OF NC AT CHAPEL HILL	3,659	2,589	2,383	1,704	3,467	2,576	2,346	1,704
2 NEW YORK UNIVERSITY	3,405	3,026	2,925	2,634	3,344	2,982	2,813	2,501
3 UNIV OF WISCONSIN-MADISON	2,606	2,347	1,990	1,952	1,563	1,347	1,323	1,361
4 IOWA ST U OF SCI & TECH	1,818	1,579	1,384	1,318	567	388	354	296
5 SUNY AT BUFFALO	1,619	1,119	908	814	1,601	1,088	908	770
6 U TEX CAN CTR MDA H & TI	1,615	1,341	1,151	1,008	1,184	948	829	622
7 BROWN UNIVERSITY	1,316	584	1,090	948	1,224	576	1,086	884
8 U OF CAL BERKELEY	1,243	1,265	1,245	1,195	1,092	1,143	1,114	1,092
9 STANFORD UNIVERSITY	1,085	921	783	714	959	883	772	711
10 PRINCETON UNIVERSITY	986	1,111	974	845	808	664	654	557
TOTAL 1ST 10 INSTS.	19,352	15,882	14,833	13,132	15,809	12,595	12,199	10,498
11 BOSTON COLLEGE	938	930	1,434	1,073	929	926	1,282	942
12 UNIVERSITY OF CHICAGO	932	716	620	547	903	712	617	542
13 MASS INST OF TECHNOLOGY	875	849	921	800	867	822	902	763
14 UNIVERSITY OF MINNESOTA	857	758	724	782	511	471	453	526
15 NEW MEXICO STATE UNIV	811	79	54	897	809	39	53	897
16 GEORGE WASHINGTON UNIV	756	683	521	509	494	508	383	363
17 PURDUE UNIV ALL CAMPUSES	734	578	482	450	642	476	409	340
18 RUTGERS THE STATE UNIV	719	752E	782	718	494	487E	465	503
19 HARVARD UNIVERSITY	635	582	584	482	594	537	535	471
20 UNIVERSITY OF WASHINGTON	627	284	286	386	612	262	286	386
TOTAL 1ST 20 INSTS.	27,236	22,093	21,241	19,776	22,664	17,835	17,584	16,231
21 UNIVERSITY OF PITTSBURGH	612	27	40	46	439	27E	36	38
22 UNIVERSITY OF MICHIGAN	590	644	738	612	351	424	528	465
23 UNIV ILLINOIS URBANA	587	775	714	484	545	588	462	456
24 CARNEGIE-MELLON UNIV	582	557	362	397	558	331	280	311
25 FLORIDA STATE UNIVERSITY	571	442	360	401I	304E	212E	179	297I
26 N C STATE UNIV AT RALEIGH	570	372	370	374	32	133	182	41
27 LOMA LINDA UNIVERSITY	562	362	311	209	399	257	298	179
28 ROCKEFELLER UNIVERSITY	534	627	571	491	82	98	0	0
29 CORNELL UNIVERSITY	505	517	425	434	496	517	420	432
30 UNIV OF PENNSYLVANIA	482	370	272	231	361	326	255	221
TOTAL 1ST 30 INSTS.	32,831	26,786	25,404	23,455	26,231	20,748	20,224	18,671
31 YALE UNIVERSITY	479	397	375	319	462	392	341	307
32 U OF CAL LOS ANGELES	473	435	369	458	427	413E	353	436
33 OHIO STATE UNIVERSITY	448	139	200	369	279	123	167	134
34 UNIVERSITY OF FLORIDA	433	282	248	61	67	59	67	61
35 SUNY AT STONY BROOK	401	312	391	317	350	250	368	297
36 VA POLYTECH INST & ST U	392	389	357	289	176	171	7	121
37 UNIVERSITY OF GEORGIA	387	371	46	41	63	36	43	30
38 LOUISIANA ST UNIV SYSTEM	387	363	449	421	91	91	105	89
39 YESHIVA UNIVERSITY	385I	391	352	310	385I	391	352	310
40 US NAVAL POSTGRAD SCHOOL	377	391	49	26	377	391	49	26
TOTAL 1ST 40 INSTS.	36,993	30,256	28,240	26,066	28,908	23,065	22,076	20,482
41 COLORADO STATE UNIVERSITY	374	280	187	186	208	134	98	115
42 RENSSELAER POLY INST	360	69I	131E	117E	269	57I	131E	117E
43 UNIVERSITY OF DAYTON	351	902	426	201	310	848	373	192
44 NORTHWESTERN UNIVERSITY	341	287	295	301	337	284	283	291
45 UNIV OF TEXAS AT AUSTIN	327	380	284	281	211	244	140	145
46 U OF CAL SAN DIEGO	310	240	195	190	304	237	184	181
47 LEHIGH UNIVERSITY	309	285	168	243	238	239	168	222
48 TEXAS A & M UNIVERSITY	297	286	183	113	240	269	142	90
49 UNIV OF ILL CHICAGO CIR	295	203	248	185	294	190	246	184
50 CALIFORNIA INST OF TECH	281	308	241	193	258	283	222	183
TOTAL 1ST 50 INSTS.	40,238	33,496	30,598	28,076	31,577	25,850	24,063	22,202

SEE FOOTNOTES AT END OF TABLE.

TABLE B-34. MATHEMATICS R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 INDIANA UNIV-BLOOMINGTON	265	201	220	293	257	188	213	288
52 MICHIGAN STATE UNIVERSITY	264	220	360	523	147	110	297	418
53 OREGON STATE UNIVERSITY	260	370	331	181	61	135	123	57
54 UNIVERSITY OF UTAH	259	147	144	196	234	140	143	190
55 BOSTON UNIVERSITY	259	178	69	8	243	162	69	8
56 UNIVERSITY OF DENVER	256	272	62	140	182	91	53	124
57 UNIVERSITY OF IOWA	237	116	111	140	224	116	109	140
58 U OF ARKANSAS PINE BLUFF	234	187	134	0	0	0	0	0
59 UNIVERSITY OF COLORADO	225	146	150	211	188	127	132	168
60 RICE UNIVERSITY	219	256	286	193	219	249	285	193
TOTAL 1ST 60 INSTS.	42,716	35,589	32,465	29,961	33,332	27,168	25,487	23,788
61 UNIVERSITY OF ROCHESTER	216	166	221	234	188	144	190	201
62 U OF CAL RIVERSIDE	204	206	284	327	78	109	202	232
63 U OF CAL SANTA BARBARA	194	165	134	134	151	124	122	124
64 GEORGIA INSTITUTE OF TECH	184	160	196	111	94	84	105	55
65 CLARKSON COL OF TECH	172	109	67	53	154	98	67	48
66 PENNSYLVANIA STATE UNIV	171	107	79	74	155	95	77	74
67 TULANE UNIVERSITY	171	184	177	167	144	155	149	140
68 CUNY GRAD SCH & UNIV CTR	166	149	183	106	149	144	169	93
69 UNIVERSITY OF ARIZONA	164	146	144	167	137	122	75	94
70 UNIVERSITY OF VIRGINIA	160E	133	164	194	140E	117	142	151
TOTAL 1ST 70 INSTS.	44,518	37,114	34,114	31,528	34,722	28,360	26,785	25,000
71 UNIVERSITY OF HOUSTON	159	120	120	93	142	120	120	93
72 UNIV OF SOUTH FLORIDA	157	58I	81	14	133	47I	47	12
73 UNIV OF MD COLLEGE PARK	154	131	150	155	141	130	149	149
74 CLAREMONT GRAD SCHOOL	152	8	9	11	152	8	9	11
75 COLUMBIA UNIV MAIN DIV	151	100	138	358	137	96	133	289
76 UNIVERSITY OF CONNECTICUT	149	65	49	47	56	28	27	27
77 BRANDEIS UNIVERSITY	144	222	213	173	143	206	205	161
78 WASHINGTON STATE UNIV	144	54	35	53	49	54	34	43
79 JOHNS HOPKINS UNIVERSITY	142	139	104	122	138	129	103	100
80 UNIVERSITY OF KANSAS	130	116	114	120	112	102	99	88
TOTAL 1ST 80 INSTS.	46,000	38,127	35,127	32,664	35,925	29,280	27,711	25,963
81 UNIV OF STHRN MISSISSIPPI	125	0	0	0	119	0	0	0
82 UNIV OF MISSOURI COLUMBIA	122	56	68	43	100	45	51	41
83 UNIVERSITY OF NOTRE DAME	118	99	104	123	112	94	95	123
84 UNIVERSITY OF DELAWARE	110	62	22	44	57	36	13	29
85 U OF CAL SANTA CRUZ	108	57	3	0	99	52	0	0
86 DREXEL UNIVERSITY	108	125	137	89	92	84	95	59
87 UNIVERSITY OF OREGON	106	110	87	136	80	70	87	136
88 U OF WIS MILWAUKEE	105	81	63	135	14	11	4	7
89 UNIVERSITY OF CINCINNATI	104	79	50	32	97	73	42	18
90 UNIV OF MASS AT AMHERST	101	100	76	246	80	100	75	58
TOTAL 1ST 90 INSTS.	47,107	38,896	35,737	33,512	36,775	29,845	28,173	26,434
91 KANSAS ST UNIVERSITY	99	119	71	38	97	115	68	19
92 WASHINGTON UNIVERSITY	99	100	116	95	99	100	116	95
93 SUNY COLLEGE BROCKPORT	98	89	45	55	50	49	34	24
94 U OF CAL DAVIS	95	18	10	20	44	14	7	14
95 SOUTHERN METHODIST UNIV	94	58	167	21	85	53	167	18
96 MONTANA STATE UNIVERSITY	92	5	12	4	20	4	5	4
97 US AIR FORCE ACADEMY	87	41	30	52	87	41	30	52
98 UNIV OF STHRN CALIFORNIA	86	120	111	105	86	120	111	105
99 NORTHEASTERN UNIVERSITY	85	91	87	111	42	48	51	61
100 CLEMSON UNIVERSITY	80	75	57	35	15	18	40	22
TOTAL 1ST 100 INSTS.	48,022	39,612	36,443	34,048	37,400	30,407	28,802	26,848
TOTAL ALL OTHER INSTS.	3,161	2,755	3,418	3,594	2,500	1,927	2,419	2,557

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-35. COMPUTER SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	55,146	44,438	45,605	39,190	37,478	32,871	33,879	28,698
1 MASS INST OF TECHNOLOGY	7,927	7,414	6,527	7,056	6,275	6,772	5,771	6,208
2 UNIV ILLINOIS URBANA	4,313	2,704	2,839	3,258	3,770	2,216	2,391	2,752
3 UNIV OF MD COLLEGE PARK	3,705	2,786	2,654	2,407	1,340	791	740	741
4 PENNSYLVANIA STATE UNIV	3,254	169	107	118	152	153	94	109
5 GEORGE WASHINGTON UNIV	2,894	2,504	3,121	1,254	2,894	2,499	3,077	1,250
6 STANFORD UNIVERSITY	2,534	2,401	2,419	2,389	2,493	2,352	2,371	2,364
7 CARNEGIE-MELLON UNIV	2,433	2,070	1,784	1,642	2,399	2,052	1,753	1,544
8 NEW MEXICO STATE UNIV	2,415	2,656	2,752	74	2,405	2,642	2,710	15
9 UNIVERSITY OF MICHIGAN	1,267	909	911	980	314	158	464	265
10 UNIV OF PENNSYLVANIA	1,229	923	1,004	829	1,074	799	936	735
TOTAL 1ST 10 INSTS.	31,971	24,536	24,118	20,007	23,116	20,434	20,307	15,983
11 FLORIDA STATE UNIVERSITY	1,182	1,039	1,268	394I	61E	70E	81	254I
12 MICHIGAN STATE UNIVERSITY	947	923	69	54	8	1	26	25
13 UNIVERSITY OF PITTSBURGH	884	49	59	53	463	49	59	53
14 UNIVERSITY OF COLORADO	861	325	603	659	296	254	393	221
15 U TEX CAN CTR MDA H & TI	853	472	328	255	287	40	12	12
16 UNIVERSITY OF UTAH	845	1,169	1,322	2,107	521	1,112	1,304	1,910
17 RUTGERS THE STATE UNIV	711	691E	718	470	577	488E	466	308
18 NEW YORK UNIVERSITY	691	718	690	650	678	704	680	643
19 US NAVAL POSTGRAD SCHOOL	662	44	1,213E	439E	662	44	1,213E	439E
20 CORNELL UNIVERSITY	579	489	429	209	518	455	379	208
TOTAL 1ST 20 INSTS.	40,186	30,455	30,817	25,297	27,187	23,651	24,920	20,056
21 UNIV OF MASS AT AMHERST	577	570	329	305	328	282	269	299
22 GALLAUDET COLLEGE	577	0	0	0	0	0	0	0
23 UNIV OF TEXAS AT AUSTIN	572	454	1,503	1,180	468	389	448	321
24 GEORGIA INSTITUTE OF TECH	529	462	784	418	269	242	421	205
25 UNIVERSITY OF DAYTON	458	523	595	413	405	465	519	396
26 SYRACUSE UNIVERSITY	446	472	410	646	386	472	380	619
27 N J INST OF TECHNOLOGY	429	215	88	4	429	215	66	0
28 OHIO STATE UNIVERSITY	424	422	574	187	257	320	328	185
29 UNIVERSITY OF GEORGIA	413	423	550	520	314	306	419	302
30 YALE UNIVERSITY	397	293	77	34	395	293	57	33
TOTAL 1ST 30 INSTS.	45,008	34,289	35,727	29,004	30,438	26,635	27,827	22,416
31 UNIV OKLAHOMA	353	322	233	375	301	191	165	328
32 CALIFORNIA INST OF TECH	348	0	0	0	319	0	0	0
33 UNIVERSITY OF IOWA	324	36	49	27	309	36	48	27
34 PRINCETON UNIVERSITY	300	300	292	274	300	300	292	257
35 UNIV OF WISCONSIN-MADISON	291	300	330	364	154	90	176	217
36 UNIVERSITY OF ROCHESTER	288	382	80	0	134	162	68	0
37 DUKE UNIVERSITY	283	176	99	103	281	170	99	103
38 NEW YORK INST TECH	279	123	108	87	0	5	0	0
39 COLUMBIA UNIV MAIN DIV	279	305	342	0	273	286	277	0
40 NORTHWESTERN UNIVERSITY	257	123	89	54	257	123	89	53
TOTAL 1ST 40 INSTS.	48,010	36,356	37,349	30,288	32,766	27,998	29,041	23,401
41 PURDUE UNIV ALL CAMPUSES	253	178	232	324	215	139	200	285
42 KANSAS ST UNIVERSITY	234	78	87	15	180	69	76	10
43 SUNY AT BUFFALO	218	75	88	541	184	69	82	530
44 MORGAN STATE UNIV	214	0	0	0	214	0	0	0
45 SUNY AT STONY BROOK	214	187	139	87	136	150	91	32
46 CITY COLLEGE OF CUNY	206	17	25	22I	196	0	25	16I
47 UNIVERSITY OF VIRGINIA	205E	171	118	219	179E	149	100	171
48 UNIV OF NEBRASKA - LNCLN	204	178	1	7	15	14	0	0
49 U OF CAL LOS ANGELES	183	450	579	658	183	229	309	247
50 UNIVERSITY OF CONNECTICUT	182	1,233	975	613	69	537	435	271
TOTAL 1ST 50 INSTS.	50,123	38,927	39,593	32,774	34,337	29,354	30,359	24,963

SEE FOOTNOTES AT END OF TABLE.

TABLE B-35. COMPUTER SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 HARVARD UNIVERSITY	177	292	155	166	161	269	35	0
52 COLORADO STATE UNIVERSITY	169	39	78	38	133	39	17	31
53 CALIF STATE UNIV CHICO	167	16	13	1	0	1	0	1
54 UNIV OF NC AT CHAPEL HILL	155	229	253	209	154	229	253	209
55 UNIVERSITY OF CHICAGO	153	259	337	349	138	259	329	348
56 UNIVERSITY OF WASHINGTON	152	124	326	55	100	93	243	0
57 U OF CAL IRVINE	144	77	33	132	144	77	33	132
58 CUNY QUEENS COLLEGE	142	101	27	0	136	101	27	0
59 SUNY BINGHAMTON	134	73	20	0	50	16	0	0
60 SYRACUSE UNIV UTICA COLL	132	94	112	53	132	94	112	53
TOTAL 1ST 60 INSTS.	51,648	40,231	40,947	33,777	35,485	30,532	31,408	25,737
61 CASE WESTERN RESERVE UNIV	132	128	42	29	64	72	30	28
62 COLLEGE OF WILLIAM & MARY	131I	128	0	0	131I	81	0	0
63 OREGON STATE UNIVERSITY	130	33	16	14	33	0	0	0
64 U OF CAL BERKELEY	125	104	102	31	0	0	0	0
65 U OF ARKANSAS PINE BLUFF	116	99	88	0	0	0	0	0
66 UNIV OF HAWAII-MANOA	106	109	132	152	106	109	132	152
67 ILLINOIS INST OF TECH	105	56	23	0	105	56	23	0
68 SWARTHMORE COLLEGE	87	0	0	11	87	0	0	11
69 US AIR FORCE ACADEMY	84	104	99	148	84	104	99	148
70 MEMPHIS STATE UNIVERSITY	84	0	0	0	84	0	0	0
TOTAL 1ST 70 INSTS.	52,748	40,992	41,449	34,152	36,179	30,954	31,692	26,066
71 UNIV ALABAMA BIRMINGHAM	82	201	296	358	81	201	296	358
72 UNIV ALABAMA HUNTSVILLE	80	45	11	36	39	0	10	1
73 INST TEXTILE TECHNOLOGY	80	80	80	80	0	0	0	0
74 UNIV OF SAN FRANCISCO	78	51	0E	0	69	21	0E	0
75 VA POLYTECH INST & ST U	69	64	40	8	54	48	0	0
76 LOMA LINDA UNIVERSITY	69	45	39	26	30	19	22	13
77 N C STATE UNIV AT RALEIGH	63	79	80	65	23	23	55	50
78 SOUTHERN METHODIST UNIV	63	102	47	256	62	77	47	238
79 MISSISSIPPI STATE UNIV	62	52	43	63	0	0	0	0
80 UNIV OF MISSOURI ROLLA	62	56	8	43	48	43	2	18
TOTAL 1ST 80 INSTS.	53,456	41,721	42,093	35,087	36,585	31,367	32,124	26,744
81 UNIVERSITY OF HOUSTON	59	61	9	5	59	61	9	0
82 WEST VIRGINIA UNIVERSITY	59	101	1	1	59	101	1	1
83 UNIVERSITY OF MINNESOTA	57	81	52	57	54	73	49	45
84 LEHIGH UNIVERSITY	56	43	51	54	0	0	0	0
85 UNIVERSITY OF KANSAS	54	15	17	42	41	3	4	20
86 UNIVERSITY OF ALASKA	53	50	188	156	0	0	33	116
87 INDIANA UNIV-BLOOMINGTON	48	19	8	6	48	17	3	0
88 UNIVERSITY OF ARIZONA	47	44	42	42	41	36	40	39
89 UNIV OF WIS WHITEWATER	44	39	36	1E	0	0	0	0
90 US MILITARY ACADEMY	43I	40E	55	31	21I	20E	55	31
TOTAL 1ST 90 INSTS.	53,976	42,214	42,552	35,482	36,908	31,678	32,318	26,996
91 INSTITUTE PAPER CHEMISTRY	41	39	37	166	7	7	8	0
92 JOHNS HOPKINS UNIVERSITY	41	0	0	0	40	0	0	0
93 THE HARTFORD GRADUATE CTR	41	11	0	0	0	0I	0	0
94 UNIV OF NEW ORLEANS	39	166	0	0	0	0	0	0
95 UNIVERSITY OF DELAWARE	38	12	17	2	23	8	10	0
96 CLEVELAND STATE UNIV	38	19	0	0	30	17	0	0
97 UNIVERSITY OF FLORIDA	37	159	709	584	0	0	0	0
98 WRIGHT STATE UNIV	37	0	1	0	34	0	0	0
99 LOUISIANA ST UNIV SYSTEM	37	13	9	7	0	0	0	0
100 U OF CAL SANTA CRUZ	36	86	10	12	33	77	9	12
TOTAL 1ST 100 INSTS.	54,361	42,709	43,335	36,253	37,075	31,787	32,345	27,008
TOTAL ALL OTHER INSTS.	785	1,729	2,270	2,937	403	1,C84	1,534	1,690

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SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-36. LIFE SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				BIO-LOGICAL SCIENCES	AGRI-CULTURAL SCIENCES	MEDICAL SCIENCES	OTHER
	1977	1976	1975	1974				
UNITED STATES TOTAL	2,256,782	2,098,913	1,900,486	1,631,574	769,097	464,428	948,273	74,984
1 UNIVERSITY OF MINNESOTA	61,659	55,809	50,752	39,548	10,170	20,371	31,118	0
2 JOHNS HOPKINS UNIVERSITY	52,538	47,104	45,038	39,470	14,731	0	37,807	0
3 UNIV OF WISCONSIN-MADISON	52,044	48,674	44,892	37,943	16,026	9,462	25,938	618
4 U OF CAL SAN FRANCISCO	48,324	47,543	43,261	33,696	9,891	0	35,243	3,190
5 UNIVERSITY OF WASHINGTON	47,619	47,258E	43,620	37,594	10,350	7,014	28,530	1,725
6 HARVARD UNIVERSITY	47,030	42,401	39,652	34,166	26,738	3	20,289	0
7 UNIV OF PENNSYLVANIA	46,612	46,049	41,096	35,027	13,418	0	31,206	1,988
8 CORNELL UNIVERSITY	45,440	42,476	39,712	36,345	8,826	18,900	17,714	0
9 UNIVERSITY OF CHICAGO	41,502	38,404	37,052	35,817	17,053	0	24,449	0
10 U OF CAL LOS ANGELES	40,956	37,407	35,097	28,453	17,863	2	21,062	2,029
TOTAL 1ST 10 INSTS.	483,724	453,125	420,172	358,059	145,066	55,752	273,356	9,550
11 COLUMBIA UNIV MAIN DIV	39,463	35,641	38,243	30,375	17,343	507	17,675	3,938
12 U OF CAL DAVIS	39,391	38,938	34,136	28,530	14,566	15,596	5,972	3,257
13 YALE UNIVERSITY	35,605	32,900	30,166	25,345	12,936	342	22,327	0
14 NEW YORK UNIVERSITY	35,475	31,939	30,044	23,710	7,098	0	28,377	0
15 UNIVERSITY OF MICHIGAN	33,754	34,184	30,917	24,764	13,604	0	20,150	0
16 STANFORD UNIVERSITY	32,414	32,279	29,674	22,708	12,151	0	20,263	0
17 MICHIGAN STATE UNIVERSITY	31,995	27,873	24,174	19,075	9,646	15,665	6,412	272
18 UNIVERSITY OF FLORIDA	30,791	29,627	27,963	21,997	3,379	19,082	7,402	928
19 WASHINGTON UNIVERSITY	30,656	27,864	22,458	18,424	11,287	0	17,974	1,395
20 U OF CAL BERKELEY	30,283	29,936	28,732	25,678	16,850	6,383	7,050	0
TOTAL 1ST 20 INSTS.	823,551	774,306	716,679	598,665	263,926	113,327	426,958	19,340
21 UNIVERSITY OF ROCHESTER	29,691	30,571	27,520	26,699	14,808	0	13,312	1,771
22 TEXAS A & M UNIVERSITY	27,419	24,982	19,589	17,579	1,988	23,345	2,086	0
23 U OF CAL SAN DIEGO	26,828	24,492	21,983	17,924	6,944	0	19,822	62
24 OHIO STATE UNIVERSITY	26,297	21,977	21,842	17,951	4,303	9,646	11,959	389
25 ROCKEFELLER UNIVERSITY	26,249	23,891	22,662	20,478	25,646	0	603	0
26 YESHIVA UNIVERSITY	25,212I	28,139	26,247	22,451	7,561I	0I	13,608I	4,043I
27 DUKE UNIVERSITY	24,250	23,179	21,850	16,491	9,315	127	13,082	1,726
28 UNIVERSITY OF GEORGIA	24,006	23,957	28,092	26,005	6,811	15,712	1,483	0
29 BAYLOR COLLEGE OF MED	23,355	22,923	19,643	17,172	10,928	0	12,427	0
30 U TEX CAN CTR MDA H & TI	22,202	19,680	14,955	12,812	5,713	0	14,620	1,869
TOTAL 1ST 30 INSTS.	1,079,260	1,018,097	941,062	794,227	357,943	162,157	529,960	29,200
31 N C STATE UNIV AT RALEIGH	21,878	19,220	18,538	16,876	5,470	16,408	0	0
32 UNIVERSITY OF MIAMI	21,674	19,751	18,717	19,783	5,419	0	14,989	1,266
33 UNIV OF MISSOURI COLUMBIA	21,622	20,936	20,736	19,076	4,226	9,718	7,678	0
34 PURDUE UNIV ALL CAMPUSES	21,489	20,711	17,819	15,099	8,145	10,559	2,785	0
35 UNIVERSITY OF COLORADO	20,100	18,896	15,878	13,643	9,230	0	8,456	2,414
36 UNIVERSITY OF CONNECTICUT	19,910	17,370	10,631	9,066	11,702	1,478	6,730	0
37 PENNSYLVANIA STATE UNIV	19,805	16,078	8,285	11,979	6,539	9,015	4,231	20
38 UNIV OF STHRN CALIFORNIA	19,627	19,251	16,118	13,387	5,995	0	13,261	371
39 LOUISIANA ST UNIV SYSTEM	19,481	17,477	16,371	14,221	3,733	12,994	2,706	48
40 CUNY MT SINAI SCH OF MED	19,308	19,375	17,234	12,352	4,867	0	14,441	0
TOTAL 1ST 40 INSTS.	1,284,154	1,207,162	1,101,389	939,709	423,269	222,329	605,237	33,319
41 UNIVERSITY OF CINCINNATI	19,280	16,683	12,429	11,805	6,033	0	12,912	335
42 UNIV ALABAMA BIRMINGHAM	18,907	17,538	15,612	13,712	2,570	0	16,337	0
43 UNIVERSITY OF IOWA	18,413	16,089	14,815	11,825	5,215	0	12,775	423
44 IOWA ST U OF SCI & TECH	18,235	15,837	14,937	13,094	3,125	12,973	2,137	0
45 OREGON STATE UNIVERSITY	17,708	16,259	14,453	12,818	5,810	11,102	676	120
46 COLORADO STATE UNIVERSITY	17,361	12,941	12,625	11,321	7,605	8,668	1,088	0
47 UNIV OF NC AT CHAPEL HILL	17,018	16,376	15,463	12,251	6,744	0	10,274	0
48 U TEX HLTH SCI CTR DALLAS	16,755	14,476	8,436	6,969	0	0	16,755	0
49 VANDERBILT UNIVERSITY	16,214	15,440	13,065	11,585	6,725	0	5,403	4,086
50 CASE WESTERN RESERVE UNIV	16,022	14,304	11,806	10,223	4,836	0	11,186	0
TOTAL 1ST 50 INSTS.	1,460,067	1,363,105	1,235,030	1,055,312	471,932	255,072	694,780	38,283

SEE FOOTNOTES AT END OF TABLE.

TABLE B-36. LIFE SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				BIO-	AGRI-	MEDICAL	OTHER
	1977	1976	1975	1974	LOGICAL SCIENCES	CULTURAL SCIENCES	SCIENCES	
51 BOSTON UNIVERSITY	15,760	14,087	13,053	10,300	717	0	15,043	0
52 MISSISSIPPI STATE UNIV	15,484	14,340	13,853	11,761	140	15,219	0	125
53 UNIV ILLINOIS URBANA	15,106	13,875	12,535	12,260	4,145	9,048	1,409	504
54 UNIV OF NEBRASKA - LNCLN	15,025	13,616	13,213	10,622	1,740	12,149	1,136	0
55 MASS INST OF TECHNOLOGY	15,021	14,550	13,422	11,303	13,018	0	1,153	850
56 UNIVERSITY OF ARIZONA	14,617	13,147	10,792	10,531	4,955	5,206	4,270	186
57 NORTHWESTERN UNIVERSITY	14,389	13,091	12,006	8,341	3,999	0	8,956	1,434
58 U OF CAL RIVERSIDE	13,960	13,418	11,258	9,581	5,305	8,643	12	0
59 TEMPLE UNIVERSITY	13,831	12,619	12,373	13,255	6,765	0	7,066	0
60 WASHINGTON STATE UNIV	13,700	12,102E	10,594	9,527	1,087	11,209	1,404	0
TOTAL 1ST 60 INSTS.	1,606,960	1,497,950	1,358,129	1,162,793	513,803	316,546	735,229	41,382
61 UNIVERSITY OF PITTSBURGH	13,598	13,941	12,058	9,803	5,737	0	6,109	1,752
62 VA POLYTECH INST & ST U	13,436	10,098	9,418	7,174	2,133	8,133	0	3,170
63 KANSAS ST UNIVERSITY	13,238	11,665	10,373	9,174	1,225	11,847	166	0
64 UNIVERSITY OF UTAH	13,130	12,282	11,551	12,561	7,016	0	6,114	0
65 RUTGERS THE STATE UNIV	12,530	10,080E	10,478	11,343	5,968	6,562	0	0
66 SUNY AT BUFFALO	12,335	8,649	10,428	9,659	4,602	0	7,733	0
67 AUBURN UNIVERSITY	12,248	9,821	9,063	7,574	4,007	8,237	4	0
68 EMORY UNIVERSITY	12,125	11,703	10,386	8,273	2,387	0	7,222	2,516
69 U TEX GALVESTON MED BRAN	11,858	10,409	9,099	4,610	6,735	0	4,253	870
70 UNIV OF KENTUCKY ALL CAM	11,810I	9,251	9,392	8,602E	2,777I	1,618I	4,209I	3,206I
TOTAL 1ST 70 INSTS.	1,733,268	1,605,849	1,460,375	1,251,566	556,390	352,943	771,039	52,896
71 VIRGINIA COMMONWLTH UNIV	11,763	9,083	7,315	6,871	4,783	0	6,831	149
72 UNIV OF VT & ST AGRIC COL	11,741	10,929	9,242	6,621	3,220	1,870	6,115	536
73 UNIV OF MD BALT PROF SCH	11,406	10,797	9,837	7,936	5,154	0	5,732	520
74 UNIV OF HAWAII-MANOA	11,395	11,479	9,632	7,496	4,229	3,616	720	2,830
75 SUNY DOWNSTATE MED CTR	10,393	9,970	8,885	7,535	2,815	0	7,578	0
76 OKLAHOMA STATE UNIVERSITY	10,371	8,870	7,739	7,100	2,552	6,407	1,412	0
77 TULANE UNIVERSITY	10,217	10,983	10,543	9,918	3,659	0	4,253	2,305
78 UNIVERSITY OF VIRGINIA	10,050E	8,375	7,292	5,977	4,910E	0E	5,140E	0E
79 U PUERTO RICO MAYAGUEZ	9,997E	9,521	9,592	8,830	100E	9,897E	0	0
80 UNIVERSITY OF IDAHO	9,811	8,589	7,679	6,435	1,662	6,258	138	1,753
TOTAL 1ST 80 INSTS.	1,840,412	1,704,445	1,548,131	1,326,285	589,474	380,991	808,958	60,989
81 CLEMSON UNIVERSITY	9,799	8,602	8,426	7,019	251	9,541	7	0
82 U OF CAL IRVINE	9,566	8,665	7,401	5,372	4,838	0	4,695	33
83 IND U PURDUE/INDIANAPOLIS	8,897	9,590	8,715	8,090	2,748	0	6,149	0
84 U OF OREGON HLTH SCI CTR	8,858	8,144	5,407	5,703	2,734	0	6,124	0
85 UNIVERSITY OF ARKANSAS	8,717	8,928	7,470	6,808	858	7,859	0	0
86 U OF ILL MEDICAL CENTER	8,529	7,203	6,216E	6,185	3,387	0	5,142	0
87 NORTH DAKOTA STATE UNIV	8,453	8,166	6,134	5,037	4,826	3,627	0	0
88 INST OF AGRI UNIV OF TENN	8,204	7,729	6,748	4,788	0	8,204	0	0
89 ALBANY MED COLLEGE	8,148	6,367	6,939	5,580	2,444	0	5,704	0
90 UNIVERSITY OF ALASKA	7,919	7,845	5,620	4,753	4,372	2,786	761	0
TOTAL 1ST 90 INSTS.	1,927,502	1,785,684	1,617,207	1,386,020	615,932	413,008	837,540	61,022
91 UNIV OF MD COLLEGE PARK	7,818	7,053	6,288	5,776	1,062	6,756	0	0
92 GEORGETOWN UNIVERSITY	7,813	6,601	7,250	6,171	2,670	0	5,139	4
93 ST LOUIS UNIV	7,754I	7,114	7,808	4,418	4,166I	0I	2,245I	1,343I
94 U TENN CTR HLTH SCIENCES	7,719	8,095	7,444	6,142	1,933	0	5,446	340
95 THOM JEFFERSON UNIV	7,560	7,240	6,915	5,460	1,524	0	6,036	0
96 U TEX HLTH SCI CTR HOUSTN	7,268	6,823	6,249	4,625	2,269	0	3,831	1,168
97 UNIVERSITY OF KANSAS	6,905	6,843	5,685	7,995E	3,710	74	2,999	122
98 GEORGE WASHINGTON UNIV	6,842	7,976	5,817	5,899	972	0	5,870	0
99 SUNY AT STONY BROOK	6,567	5,886	3,506	1,716	4,171	0	2,300	96
100 U OF NEB MED CTR	6,478	6,097	5,665	4,617	5,489	0	989	0
TOTAL 1ST 100 INSTS.	2,000,226	1,855,412	1,679,834	1,438,839	643,898	419,838	872,395	64,095
TOTAL ALL OTHER INSTS.	256,556	243,501	220,652	192,735	125,199	44,590	75,878	10,689

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-37. FEDERALLY FINANCED LIFE SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				BIO-	AGRI-	MEDICAL	OTHER
	1977	1976	1975	1974	LOGICAL SCIENCES	CULTURAL SCIENCES	SCIENCES	
UNITED STATES TOTAL	1,466,629	1,373,928	1,237,655	1,052,663	572,338	134,236	706,147	53,908
1 JOHNS HOPKINS UNIVERSITY	43,277	40,181	37,959	32,375	12,658	0	30,619	0
2 UNIVERSITY OF WASHINGTON	40,149	37,187E	36,784	32,257	9,642	5,206	23,824	1,477
3 U OF CAL SAN FRANCISCO	39,936	40,460	36,450	27,979	8,284	0	28,915	2,737
4 HARVARD UNIVERSITY	36,673	33,675	32,159	28,908	21,384	0	15,289	0
5 UNIVERSITY OF MINNESOTA	35,357	32,354	30,066	22,463	7,673	5,335	22,349	0
6 U OF CAL LOS ANGELES	33,277	31,140	28,806	23,826	15,338	0	16,286	1,653
7 UNIV OF PENNSYLVANIA	31,969	31,685	29,265	25,322	10,942	0	19,691	1,336
8 COLUMBIA UNIV MAIN DIV	31,520	28,062	26,818	23,005	14,816	480	13,488	2,736
9 YALE UNIVERSITY	31,033	29,284	25,493	21,103	11,976	319	18,738	0
10 STANFORD UNIVERSITY	30,885	30,731	27,035	20,748	11,118	0	19,767	0
TOTAL 1ST 10 INSTS.	354,076	334,759	310,835	257,986	123,831	11,340	208,966	9,939
11 UNIVERSITY OF CHICAGO	30,735	28,456	27,299	25,086	14,323	0	16,412	0
12 NEW YORK UNIVERSITY	27,888	24,538	22,448	17,095	5,664	0	22,224	0
13 UNIV OF WISCONSIN-MADISON	27,517	26,359	23,806	21,203	8,202	4,426	14,586	303
14 WASHINGTON UNIVERSITY	26,106	24,013	19,781	16,407	9,520	0	15,193	1,393
15 CORNELL UNIVERSITY	24,445	21,572	18,602	16,609	6,834	5,812	11,799	0
16 U OF CAL SAN DIEGO	24,235	22,039	19,722	16,098	6,437	0	17,744	54
17 UNIVERSITY OF MICHIGAN	22,922	22,497	20,489	17,174	10,181	0	12,741	0
18 YESHIVA UNIVERSITY	22,634I	23,011	21,097	18,762	6,786I	0I	12,208I	3,640I
19 DUKE UNIVERSITY	21,804	20,789	19,512	14,136	8,742	104	11,403	1,555
20 U OF CAL BERKELEY	21,115	21,417	20,594	18,939	11,537	2,971	6,607	0
TOTAL 1ST 20 INSTS.	603,477	569,450	524,185	439,495	212,057	24,653	349,883	16,884
21 BAYLOR COLLEGE OF MED	21,063	20,549	18,118	15,650	10,051	0	11,012	0
22 UNIVERSITY OF ROCHESTER	20,716	21,590	19,273	20,339	11,734	0	8,394	588
23 U OF CAL DAVIS	20,334	20,779	17,175	14,943	9,781	3,256	4,303	2,994
24 UNIV ALABAMA BIRMINGHAM	16,976	16,618	14,679	12,727	2,095	0	14,881	0
25 UNIVERSITY OF MIAMI	16,651	14,023	13,851	13,500	4,503	0	11,595	553
26 UNIV OF STHRN CALIFORNIA	16,499	16,148	13,290	10,715	5,515	0	10,623	361
27 CUNY MT SINAI SCH OF MED	16,036	15,702	13,492	8,740	4,287	0	11,749	0
28 UNIVERSITY OF IOWA	15,611	14,577	13,089	10,280	4,737	0	10,470	404
29 UNIVERSITY OF COLORADO	15,399	14,703	13,243	10,625	7,083	0	6,295	2,021
30 BOSTON UNIVERSITY	14,439	12,596	11,515	9,148	612	0	13,827	0
TOTAL 1ST 30 INSTS.	777,201	736,735	671,910	566,162	272,455	27,909	453,032	23,805
31 UNIV OF NC AT CHAPEL HILL	14,397	13,922	12,883	10,598	5,860	C	8,537	0
32 MICHIGAN STATE UNIVERSITY	14,160	13,026	14,352	10,728	6,026	5,408	2,675	51
33 VANDERBILT UNIVERSITY	13,959	13,554	11,645	10,168	5,815E	0	4,188	3,956
34 U TEX CAN CTR MDA H & TI	13,601	11,253	9,382	8,291	2,535	0	9,663	1,403
35 U TEX HLTH SCI CTR DALLAS	13,383	11,760	6,898	5,349	0	0	13,383	0
36 PENNSYLVANIA STATE UNIV	12,725	10,853	4,370	7,755	5,507	4,094	3,119	5
37 MASS INST OF TECHNOLOGY	12,387	11,982	11,230	9,307	11,266	0	422	699
38 OHIO STATE UNIVERSITY	12,249	11,173	9,742	8,307	2,181	2,680	7,084	304
39 UNIVERSITY OF CONNECTICUT	11,957	9,815	5,702	4,689	6,740	662	4,555	0
40 COLORADO STATE UNIVERSITY	11,903	9,247	9,107	8,128	5,613	5,445	845	0
TOTAL 1ST 40 INSTS.	907,922	853,320	767,221	649,482	323,998	46,198	507,503	30,223
41 ROCKEFELLER UNIVERSITY	11,864	10,377	9,448	8,319	11,715	0	149	0
42 UNIVERSITY OF PITTSBURGH	11,502	12,152	9,894	7,882	5,110	0	5,073	1,319
43 EMORY UNIVERSITY	11,081	10,596	9,225	7,138	2,219	0	6,384	2,478
44 UNIVERSITY OF UTAH	10,939	11,298	10,614	10,013	5,813	0	5,126	0
45 CASE WESTERN RESERVE UNIV	10,826	9,515	9,364	8,057	3,363	0	7,463	0
46 TEMPLE UNIVERSITY	10,656	9,569	9,031	8,890	5,507	0	5,149	0
47 PURDUE UNIV ALL CAMPUSES	10,034	9,499	8,063	6,704	5,003	3,359	1,672	0
48 NORTHWESTERN UNIVERSITY	10,030	8,812	8,114	5,505	3,275	0	5,642	1,113
49 SUNY AT BUFFALO	9,965	7,106	9,820	8,892	4,056	0	5,909	0
50 UNIV OF MD BALT PROF SCH	9,736	9,168	8,423	6,708	4,454	0	4,790	492
TOTAL 1ST 50 INSTS.	1,014,555	951,412	859,217	727,590	374,513	49,557	554,860	35,625

SEE FOOTNOTES AT END OF TABLE.

TABLE B-37. FEDERALLY FINANCED LIFE SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

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INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				BIO-	AGRI-	MEDICAL	OTHER
	1977	1976	1975	1974	LOGICAL SCIENCES	CULTURAL SCIENCES	SCIENCES	
51 VIRGINIA COMMONWLTH UNIV	9,455	7,278	5,436	5,152	3,970	0	5,477	8
52 UNIV OF VT & ST AGRIC COL	8,782	8,128	6,281	4,226	2,608	701	5,298	175
53 UNIV ILLINOIS URBANA	8,347	7,104	6,129	5,274	3,843	3,333	949	222
54 UNIVERSITY OF FLORIDA	8,246	12,395	10,754	6,240	2,354	1,610	3,912	370
55 SUNY DOWNSTATE MED CTR	8,200	8,267	7,336	6,001	2,479	0	5,721	0
56 UNIVERSITY OF GEORGIA	7,960	7,702	7,070	5,117	4,592	2,696	672	0
57 UNIVERSITY OF CINCINNATI	7,942	7,449	6,468	5,250	3,582	0	4,219	141
58 UNIVERSITY OF VIRGINIA	7,811E	6,509	5,353	4,162	3,983E	0	3,828E	0
59 U OF CAL IRVINE	7,704	7,185	6,306	4,502	3,968C	0	3,736	0
60 TEXAS A & M UNIVERSITY	7,626	6,813	5,017	4,131	1,328	5,592	706	0
TOTAL 1ST 60 INSTS.	1,096,628	1,030,242	925,367	777,645	407,220	63,489	589,378	36,541
61 OREGON STATE UNIVERSITY	7,307	7,259	6,715	5,819	3,088	3,819	282	118
62 U TEX GALVESTON MED BRAN	7,219	6,283	5,841	3,633	3,877	0	2,595	747
63 U OF OREGON HLTH SCI CTR	7,217	6,481	4,210	4,660	1,093E	0	6,124E	0
64 UNIV OF MISSOURI COLUMBIA	7,068	6,846	7,136	6,921	1,585	2,311	3,172	0
65 N C STATE UNIV AT RALEIGH	6,896	5,70C	5,518	5,270	1,724	5,172	0	0
66 ST LOUIS UNIV	6,856I	6,290	6,987	3,747	3,917I	0I	1,923I	1,016I
67 UNIVERSITY OF ARIZONA	6,830	6,065	4,833	4,727	2,493	1,094	3,086	157
68 TULANE UNIVERSITY	6,539	7,030	6,749	6,349	3,167	0	2,409	963
69 U TENN CTR HLTH SCIENCES	6,493	6,791	6,244	5,198	1,457	0	4,734	302
70 IND U PURDUE/INDIANAPOLIS	6,237	6,467	6,083	5,600	2,138	0	4,099	0
TOTAL 1ST 70 INSTS.	1,165,290	1,095,454	985,683	829,569	431,759	75,885	617,802	39,844
71 U OF ILL MEDICAL CENTER	6,231	5,050	3,747E	3,965	2,543	0	3,688	0
72 THOM JEFFERSON UNIV	6,147	5,783	5,419	4,215	1,349	0	4,798	0
73 UNIV OF HAWAII-MANOA	6,069	6,302	5,763	5,090	2,852	457	710	2,050
74 UNIVERSITY OF KANSAS	6,030	5,377	4,808	7,448	3,189	73	2,685	83
75 GEORGE WASHINGTON UNIV	5,948	6,586	4,810	5,090	914	0	5,034	0
76 U TEX HLTH SCI CTR HOUSTN	5,747	5,604	5,243	3,909	2,135	0	3,044	568
77 VA POLYTECH INST & ST U	5,677	4,117	3,955	2,262	958	2,849	0	1,870
78 IOWA ST U OF SCI & TECH	5,569	3,812	3,956	3,828	1,214	3,883	472	0
79 SUNY AT STONY BROOK	5,503	5,615	3,043	1,522	3,522	0	1,889	92
80 U TEX HLTH SCI CR SAN ANT	5,147	4,207	3,658	2,753	2,772	0	2,375	0
TOTAL 1ST 80 INSTS.	1,223,358	1,147,907	1,030,085	869,651	453,207	83,147	642,497	44,507
81 NEW YORK MEDICAL COLLEGE	5,011	4,708	4,757	4,274	2,505E	0	2,506E	0
82 DARTMOUTH COLLEGE	5,001	4,437	3,629	2,415	3,463	0	1,061	477
83 GEORGETOWN UNIVERSITY	4,892	4,450	4,524	3,786	2,036	0	2,853	3
84 LOUISIANA ST UNIV SYSTEM	4,870	4,120	4,121	3,379	2,200	374	2,260	36
85 CALIFORNIA INST OF TECH	4,808	3,965	3,340	2,965	4,808	0	0	0
86 U OF NEB MED CTR	4,690	4,401	3,599	3,338	4,213	0	477	0
87 WAYNE STATE UNIVERSITY	4,623	3,596	3,282	2,636	2,176	0	2,258	189
88 UNIVERSITY OF ALASKA	4,617	3,466	2,418	3,197	3,387	1,113	117	0
89 SUNY UPSTATE MEDICAL CTR	4,583	7,793	7,610	6,024	1,386	0	2,391	806
90 TUFTS UNIVERSITY	4,561	5,955	4,928	5,236	2,477	0	2,084	0
TOTAL 1ST 90 INSTS.	1,271,014	1,194,798	1,072,293	906,901	481,858	84,634	658,504	46,018
91 MED COLLEGE OF WISCONSIN	4,221	4,003	4,006	3,432	1,458	0	2,763	0
92 MED UNIV OF SO CAROLINA	4,049	3,471	2,846	2,346	2,311	0	1,738	0
93 UNIV OF TEXAS AT AUSTIN	4,015	3,585	2,897	2,879	3,343	0	672	0
94 BRANDEIS UNIVERSITY	3,952	3,361	2,726	2,340	3,952	0	0	0
95 ALBANY MED COLLEGE	3,917	3,93C	4,015	3,139	1,173	0	2,744	0
96 WAKE FOREST UNIVERSITY	3,866	3,603	2,927	2,376	2,293	0	1,573	0
97 UNIVERSITY OF IDAHO	3,650	3,400	3,159	2,768	711	2,306	97	736
98 UTAH STATE UNIVERSITY	3,841	3,985	3,426	3,009	2,970	811	60	0
99 MEDICAL COLL OF GEORGIA	3,807	2,788	2,764	2,449	1,028	0	800	1,979
100 UNIV OF KENTUCKY ALL CAM	3,806I	3,548	4,759	3,648E	311I	332I	1,455I	1,708I
TOTAL 1ST 100 INSTS.	1,310,338	1,230,472	1,105,818	935,287	501,408	88,083	670,406	50,441
TOTAL ALL OTHER INSTS.	156,291	143,456	131,837	117,376	70,930	46,153	35,741	3,467

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-38. BIOLOGICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	769,097	710,444	631,363	511,311	572,338	520,216	457,471	366,021
1 HARVARD UNIVERSITY	26,738	24,161	20,015	17,044	21,384	19,672	16,743	14,209
2 ROCKEFELLER UNIVERSITY	25,646	23,185	22,026	19,239	11,715	10,109	9,259	8,225
3 U OF CAL LOS ANGELES	17,863	15,374	13,766E	2,570	15,338	13,615	13,400E	2,238
4 COLUMBIA UNIV MAIN DIV	17,343	14,841	12,745	10,101	14,816	12,458	10,166	8,444
5 UNIVERSITY OF CHICAGO	17,053	15,438	14,366	14,467	14,323	12,420	11,461	10,952
6 U OF CAL BERKELEY	16,850	16,222	14,849	5,004	11,537	11,445	10,305	4,383
7 UNIV OF WISCONSIN-MADISON	16,026	15,063	13,885	12,784	8,202	7,883	7,182	6,804
8 UNIVERSITY OF ROCHESTER	14,808	14,352	12,886	11,733	11,734	11,450	10,311	9,796
9 JOHNS HOPKINS UNIVERSITY	14,731	13,756	12,609	12,537	12,658	12,031	10,893	10,283
10 U OF CAL DAVIS	14,566	15,179	14,981E	471	9,781	10,556	10,560E	410
TOTAL 1ST 10 INSTS.	181,624	167,571	152,128	105,950	131,488	121,639	110,280	75,744
11 UNIVERSITY OF MICHIGAN	13,604	13,843	12,207	10,189	10,181	10,218	8,700	7,460
12 UNIV OF PENNSYLVANIA	13,418	11,945	10,969	8,718	10,942	9,925	8,575	7,007
13 MASS INST OF TECHNOLOGY	13,018	12,477	11,349	9,803	11,266	10,606	9,646	8,115
14 YALE UNIVERSITY	12,936	13,390	10,858	8,966	11,976	12,444	9,843	8,000
15 STANFORD UNIVERSITY	12,151	12,139	9,439	7,288	11,118	11,07[illegible]	8,744	6,903
16 UNIVERSITY OF CONNECTICUT	11,702	8,928	5,677	5,108	6,740	5,661	3,436	3,095
17 WASHINGTON UNIVERSITY	11,287	9,649	7,846	6,533	9,520	8,259	6,963	5,802
18 BAYLOR COLLEGE OF MED	10,928	10,726	9,191	8,035	10,051	9,808	8,648	7,470
19 UNIVERSITY OF WASHINGTON	10,350	9,880E	9,686	8,768	9,642	8,965E	9,035	8,102
20 UNIVERSITY OF MINNESOTA	10,170	8,749	8,399	6,784	7,673	7,193	7,033	5,657
TOTAL 1ST 20 INSTS.	301,188	279,297	247,749	186,142	230,597	215,789	190,903	143,355
21 U OF CAL SAN FRANCISCO	9,891	8,702	7,960E	0	8,284	7,464	6,707E	0
22 MICHIGAN STATE UNIVERSITY	9,646	7,803	5,164	4,148	6,026	5,043	4,389	3,981
23 DUKE UNIVERSITY	9,315	9,103	7,984	7,064	8,742	8,545	7,512	6,492
24 UNIVERSITY OF COLORADO	9,230	8,048	7,043	6,578	7,083	6,041	5,749	5,078
25 CORNELL UNIVERSITY	8,826	8,645	7,676	6,468	6,834	6,484	5,686	4,845
26 PURDUE UNIV ALL CAMPUSES	8,145	7,536	6,658	2,117	5,003	4,628	4,051	1,929
27 COLORADO STATE UNIVERSITY	7,605	4,163	5,806	4,492	5,613	3,065	4,703	3,494
28 YESHIVA UNIVERSITY	7,561I	8,442	7,612	7,857	6,786I	6,900	6,120	6,445
29 NEW YORK UNIVERSITY	7,098	5,620	5,452	2,597	5,664	4,464	4,095	1,950
30 UNIVERSITY OF UTAH	7,016	5,405	5,415	6,239	5,813	4,827	5,035	4,124
TOTAL 1ST 30 INSTS.	385,521	352,764	314,519	233,702	296,445	273,250	244,950	181,693
31 U OF CAL SAN DIEGO	6,944	5,631	2,623	2,708	6,437	5,167	2,369	2,552
32 UNIVERSITY OF GEORGIA	6,811	6,431	4,576	4,222	4,592	4,285	3,836	2,770
33 TEMPLE UNIVERSITY	6,765	6,320	6,611	2,561	5,507	5,078	5,173	2,038
34 UNIV OF NC AT CHAPEL HILL	6,744	6,469	6,564	4,978	5,860	5,732	5,922	4,537
35 U TEX GALVESTON MED BRAN	6,735	6,187	5,910	2,460	3,877	3,354	3,197	1,954
36 VANDERBILT UNIVERSITY	6,725	8,022	6,416	5,671	5,815E	7,484	5,826	4,989
37 PENNSYLVANIA STATE UNIV	6,539	5,795	1,275	4,113	5,507	5,449	1,236	3,888
38 UNIVERSITY OF CINCINNATI	6,033	5,125	3,700	1,137	3,582	3,239	2,838	820
39 UNIV OF STHRN CALIFORNIA	5,995	6,236	4,808	4,401	5,515	5,775	4,390	3,878
40 RUTGERS THE STATE UNIV	5,968	5,303E	5,512	7,788	2,813	1,885E	1,801	2,947
TOTAL 1ST 40 INSTS.	450,780	414,283	362,514	273,741	345,950	320,698	281,538	212,066
41 OREGON STATE UNIVERSITY	5,810	5,359	4,472	4,407	3,088	2,613	2,055	2,261
42 UNIVERSITY OF PITTSBURGH	5,737	5,921	5,193	4,394	5,110	5,370	4,476	3,662
43 U TEX CAN CTR MDA H & TI	5,713	5,233	4,357	4,178	2,535	2,116	1,999	1,686
44 CALIFORNIA INST OF TECH	5,529	4,560	3,848	3,247	4,808	3,965	3,340	2,965
45 U OF NEB MED CTR	5,489	5,182	963	506	4,213	3,741	612	300
46 N C STATE UNIV AT RALEIGH	5,470	4,997	5,561	5,003	1,724	1,482	1,655	1,562
47 UNIVERSITY OF MIAMI	5,419	4,655	5,107	6,410	4,503	3,305	3,779	4,370
48 U OF CAL RIVERSIDE	5,305	5,232	4,847	24	1,780	1,684	1,436	0
49 UNIVERSITY OF IOWA	5,215	3,538	4,681	3,816	4,737	3,385	4,146	3,431
50 UNIV OF MD BALT PROF SCH	5,154	5,1[illegible]3	4,919	3,989	4,454	4,591	4,285	3,382
TOTAL 1ST 50 INSTS.	505,621	464,093	406,462	309,715	382,902	352,930	309,321	235,685

SEE FOOTNOTES AT END OF TABLE.

TABLE B-38. BIOLOGICAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 UNIVERSITY OF ARIZONA	4,955	4,456	2,477	2,835	2,493	2,214	1,449	1,571
52 UNIVERSITY OF VIRGINIA	4,910E	4,092	3,709	3,427	3,983E	3,319	2,844	2,530
53 CUNY MT SINAI SCH OF MED	4,867	3,883	4,136	2,873	4,287	3,414	3,238	2,168
54 U OF CAL IRVINE	4,838	4,251	2,202	1,685	3,968E	3,662	2,011	1,543
55 CASE WESTERN RESERVE UNIV	4,836	4,187	3,881	3,333	3,363	3,082	3,342	2,841
56 NORTH DAKOTA STATE UNIV	4,826	4,763	3,400	2,829	831	1,082	771	829
57 VIRGINIA COMMONWLTH UNIV	4,783	3,563	2,218	2,361	3,970	2,810	1,605	1,756
58 SUNY AT BUFFALO	4,602	4,326	3,976	2,887	4,056	3,828	3,708	2,680
59 UNIV OF TEXAS AT AUSTIN	4,582	4,475	3,913	4,184	3,343	3,261	2,709	2,812
60 UNIVERSITY OF ALASKA	4,372	4,025	2,793	1,946	3,387	2,122	1,227	1,377
TOTAL 1ST 60 INSTS.	553,192	506,114	439,167	338,075	416,583	381,744	332,225	255,792
61 OHIO STATE UNIVERSITY	4,303	3,402	1,541	1,250	2,181	1,794	1,023	830
62 UNIV OF HAWAII-MANOA	4,229	4,829	4,338	3,707	2,852	3,494	3,303	2,867
63 UNIV OF MISSOURI COLUMBIA	4,226	4,629	2,574	1,823	1,585	1,927	1,123	434
64 BRANDEIS UNIVERSITY	4,215	3,605	3,001	2,644	3,952	3,361	2,726	2,340
65 SUNY AT STONY BROOK	4,171	3,543	1,984	1,072	3,522	3,360	1,747	903
66 ST LOUIS UNIV	4,166I	3,822	3,785	3,116	3,917I	3,594	3,528	2,916
67 UNIV ILLINOIS URBANA	4,145	3,563	2,998	2,825	3,843	3,190	2,699	2,566
68 AUBURN UNIVERSITY	4,007	1,005	1,846	1,187	1,652	502	1,027	899
69 NORTHWESTERN UNIVERSITY	3,999	3,597	3,459	2,969	3,275	2,748	2,673	2,346
70 LOUISIANA ST UNIV SYSTEM	3,733	3,267	3,939	3,365	2,200	1,780	1,789	1,529
TOTAL 1ST 70 INSTS.	594,386	541,380	468,632	362,033	445,562	407,494	353,863	273,422
71 UNIVERSITY OF KANSAS	3,710	2,695	1,658	2,044	3,189	2,028	1,326	1,559
72 TULANE UNIVERSITY	3,659	3,933	3,776	3,552	3,167	3,405	3,269	3,075
73 DARTMOUTH COLLEGE	3,619	3,083	2,512	1,656	3,463	2,852	2,305	1,558
74 UTAH STATE UNIVERSITY	3,545	3,853	3,233	3,287	2,970	3,280	2,772	2,599
75 U OF ILL MEDICAL CENTER	3,387	3,213	2,663	2,438	2,543	2,336	1,823	1,743
76 UNIVERSITY OF FLORIDA	3,379	16,227	17,523	16,755	2,354	2,217	2,378	2,496
77 UNIV OF VT & ST AGRIC COL	3,220	2,642	2,396	1,587	2,608	2,074	1,788	1,214
78 U TEX HLTH SCI CR SAN ANT	3,129	2,010	1,311	924	2,772	1,716	1,207	838
79 IOWA ST U OF SCI & TECH	3,125	2,713	2,505	1,918	1,214	831	903	508
80 NEW YORK MEDICAL COLLEGE	3,090E	3,090E	3,050	1,792	2,505E	2,213E	2,236E	1,330
TOTAL 1ST 80 INSTS.	628,249	584,839	509,259	397,986	472,347	430,446	373,870	290,342
81 PRINCETON UNIVERSITY	3,064	2,321	2,276	2,086	2,167	1,662	1,607	1,403
82 TUFTS UNIVERSITY	2,963	3,205	4,026	3,072	2,477	2,918	3,429	2,673
83 MED UNIV OF SO CAROLINA	2,821	2,308	1,479	1,342	2,311	1,928	1,332	1,184
84 SUNY DOWNSTATE MED CTR	2,815	2,507	2,094	1,732	2,479	2,265	1,833	1,468
85 UNIV OF KENTUCKY ALL CAM	2,777I	2,047	2,356	4,473E	311I	290	1,218	2,203E
86 IND U PURDUE/INDIANAPOLIS	2,748	2,942	3,007	924	2,138	2,138	2,211	777
87 U OF OREGON HLTH SCI CTR	2,734	1,862	1,693	1,388	1,093E	1,450	1,318	1,130
88 GEORGETOWN UNIVERSITY	2,670	2,055	2,260	2,136	2,036	1,589	1,440	1,384
89 UNIVERSITY OF OREGON	2,631	2,138	573	573	2,008	1,605	555	568
90 WAYNE STATE UNIVERSITY	2,596	2,099	1,977	1,450	2,176	1,695	1,601	1,279
TOTAL 1ST 90 INSTS.	656,068	608,323	531,000	417,162	491,543	447,586	390,414	304,411
91 UNIV ALABAMA BIRMINGHAM	2,570	2,079	1,877	1,571	2,095	1,695	1,580	1,309
92 OKLAHOMA STATE UNIVERSITY	2,552	2,099	1,953	2,506	764	640	864	1,207
93 WAKE FOREST UNIVERSITY	2,457	2,370	1,354	1,109	2,293	2,185	1,119	854
94 ALBANY MED COLLEGE	2,444	1,585E	1,728E	1,487E	1,173	975E	996E	777E
95 EMORY UNIVERSITY	2,387	2,411	2,190	1,615	2,219	2,315	2,107	1,526
96 UNIVERSITY OF NEW MEXICO	2,287	2,182	1,598	2,258	1,847	1,727	1,400	2,108
97 U TEX HLTH SCI CTR HOUSTN	2,269	2,112	2,595	673	2,135	2,017	2,493	605
98 U MASS MED SCHL-WORCESTER	2,261	1,588	896	264	1,655	1,154	769	239
99 VA POLYTECH INST & ST U	2,133	2,192	3,080	2,215	958	912	1,322	1,014
100 TEXAS A & M UNIVERSITY	1,988	1,037	436	343	1,328	662	244	135
TOTAL 1ST 100 INSTS.	679,416	627,978	548,707	431,203	508,010	462,268	403,308	314,185
TOTAL ALL OTHER INSTS.	89,681	82,466	82,656	80,108	64,328	57,948	54,163	51,836

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-39. MEDICAL SCIENCES R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	948,273	896,262	811,545	716,080	706,147	673,305	613,798	543,663
1 JOHNS HOPKINS UNIVERSITY	37,807	23,839	23,092	21,184	30,619	19,963	19,051	17,376
2 U OF CAL SAN FRANCISCO	35,243	35,259	32,143E	33,696	28,915	3C,050	27,082E	27,979
3 UNIV OF PENNSYLVANIA	31,206	32,324	27,467	23,392	19,691	20,715	18,971	16,643
4 UNIVERSITY OF MINNESOTA	31,118	28,437	25,891	20,107	22,349	2C,412	18,503	14,166
5 UNIVERSITY OF WASHINGTON	28,530	30,793	27,511	22,703	23,824	24,031	23,187	19,506
6 NEW YORK UNIVERSITY	28,377	26,319	24,592	21,113	22,224	20,074	18,353	15,145
7 UNIV OF WISCONSIN-MADISON	25,938	24,070	20,594	15,198	14,586	13,577	11,938	9,500
8 UNIVERSITY OF CHICAGO	24,449	22,966	22,686	21,350	16,412	16,036	15,838	14,134
9 YALE UNIVERSITY	22,327	19,216	18,955	16,067	18,738	16,573	15,484	12,939
10 U OF CAL LOS ANGELES	21,062	20,128	21,331E	25,883	16,286	15,809	19,406E	21,588
TOTAL 1ST 10 INSTS.	286,057	263,351	244,262	220,693	213,644	197,640	183,813	168,976
11 HARVARD UNIVERSITY	20,289	18,22C	19,615	17,119	15,289	13,993	15,405	14,697
12 STANFORD UNIVERSITY	20,263	20,140	20,235	15,420	19,767	19,660	18,291	13,845
13 UNIVERSITY OF MICHIGAN	20,150	20,341	18,710	14,575	12,741	12,279	11,789	9,714
14 U OF CAL SAN DIEGO	19,822	18,814	19,360	15,216	17,744	16,836	17,353	13,546
15 WASHINGTON UNIVERSITY	17,974	16,478	12,325	9,883	15,193	14,213	1C,987	8,928
16 CORNELL UNIVERSITY	17,714	15,546	13,642	12,409	11,799	9,987	7,913	7,095
17 COLUMBIA UNIV MAIN DIV	17,675	16,327	18,422	15,822	13,488	12,642	12,195	11,083
18 U TEX HLTH SCI CTR DALLAS	16,755	14,476	8,436	6,969	13,383	11,760	6,898	5,349
19 UNIV ALABAMA BIRMINGHAM	16,337	15,459	13,735	12,141	14,881	14,923	13,099	11,418
20 BOSTON UNIVERSITY	15,043	13,384	12,461	9,887	13,827	12,012	11,042	8,812
TOTAL 1ST 20 INSTS.	468,079	432,536	401,203	350,134	361,756	335,945	308,785	273,463
21 UNIVERSITY OF MIAMI	14,989	12,089	11,195	10,934	11,595	8,583	8,285	7,460
22 U TEX CAN CTR MDA H & TI	14,620	13,445	9,541	8,634	9,663	8,784	6,581	6,605
23 CUNY MT SINAI SCH OF MED	14,441	15,492	13,098	9,479	11,749	12,288	1C,254	6,572
24 YESHIVA UNIVERSITY	13,608I	15,195	14,435	12,348	12,208I	12,411	11,600	10,478
25 UNIVERSITY OF ROCHESTER	13,312	14,872	13,285	13,414	8,394	9,497	8,259	9,238
26 UNIV OF STHRN CALIFORNIA	13,261	12,784	10,475	8,256	10,623	10,148	8,065	6,1C7
27 DUKE UNIVERSITY	13,082	12,162	10,968	7,678	11,403	10,553	9,300	6,164
28 UNIVERSITY OF CINCINNATI	12,912	11,558	8,729	10,668	4,219	4,210	3,630	4,430
29 UNIVERSITY OF IOWA	12,775	12,551	10,134	8,009	10,470	11,192	8,943	6,849
30 BAYLOR COLLEGE OF MED	12,427	12,197	10,452	9,137	11,012	1C,741	9,470	8,180
TOTAL 1ST 30 INSTS.	603,506	564,881	513,515	448,691	463,092	434,352	393,172	345,546
31 OHIO STATE UNIVERSITY	11,959	9,644	9,090	7,994	7,084	6,831	5,982	5,033
32 CASE WESTERN RESERVE UNIV	11,186	10,117	7,925	6,890	7,463	6,433	6,022	5,216
33 UNIV OF NC AT CHAPEL HILL	10,274	9,907	8,899	7,273	8,537	8,190	6,961	6,061
34 NORTHWESTERN UNIVERSITY	8,956	7,836	7,069	4,753	5,642	4,883	4,448	2,725
35 UNIVERSITY OF COLORADO	8,456	9,198	8,835	7,065	6,295	7,012	7,494	5,547
36 SUNY AT BUFFALO	7,733	4,207	6,452	6,647	5,909	3,162	6,112	6,087
37 UNIV OF MISSOURI COLUMBIA	7,678	6,994	6,850	4,965	3,172	2,872	3,147	4,122
38 SUNY DOWNSTATE MED CTR	7,578	7,463	6,791	5,803	5,721	6,002	5,503	4,533
39 UNIVERSITY OF FLORIDA	7,402	11,542	10,440	5,242	3,912	9,059	8,376	3,744
40 EMORY UNIVERSITY	7,222	6,995	6,329	4,872	6,384	6,040	5,297	3,902
TOTAL 1ST 40 INSTS.	691,950	648,784	592,195	510,195	523,211	494,836	452,514	392,516
41 TEMPLE UNIVERSITY	7,066	6,299	5,737	10,694	5,149	4,491	3,838	6,852
42 U OF CAL BERKELEY	7,050	6,347	6,268	5,719	6,607	5,817	5,736	5,381
43 VIRGINIA COMMONWLTH UNIV	6,831	5,520	5,097	4,510	5,477	4,468	3,831	3,396
44 UNIVERSITY OF CONNECTICUT	6,730	4,916	2,490	1,631	4,555	3,408	1,737	1,076
45 MICHIGAN STATE UNIVERSITY	6,412	5,317	5,829	4,502	2,675	2,777	4,919	3,927
46 IND U PURDUE/INDIANAPOLIS	6,149	6,648	5,708	7,166	4,C99	4,329	3,872	4,823
47 U OF OREGON HLTH SCI CTR	6,124	6,282	3,714	4,315	6,124E	5,031	2,892	3,530
48 UNIV OF VT & ST AGRIC COL	6,115	5,889	4,298	2,735	5,298	5,138	3,509	2,026
49 UNIVERSITY OF UTAH	6,114	6,877	4,593	6,322	5,126	6,471	4,038	5,889
50 UNIVERSITY OF PITTSBURGH	6,109	5,73C	4,617	3,923	5,073	4,840	3,474	3,058
TOTAL 1ST 50 INSTS.	756,650	708,609	640,546	561,712	573,394	541,606	49C,360	432,474

SEE FOOTNOTES AT END OF TABLE.

TABLE B-39. MEDICAL SCIENCES R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 THOM JEFFERSON UNIV	6,036	5,898	5,117	4,040	4,798	4,586	4,363	3,100
52 U OF CAL DAVIS	5,972	6,043	6,165E	12,759	4,303	4,424	4,190E	11,145
53 GEORGE WASHINGTON UNIV	5,870	7,015	5,123	2,921	5,034	5,805	4,235	2,493
54 UNIV OF MD BALT PROF SCH	5,732	5,265	4,710	3,786	4,790	4,262	3,998	3,247
55 ALBANY MED COLLEGE	5,704	4,782E	5,211E	4,493E	2,744	2,955E	3,019E	2,362E
56 U TENN CTR HLTH SCIENCES	5,446	6,280	5,675	4,859	4,734	5,191	5,125	4,206
57 VANDERBILT UNIVERSITY	5,403	4,965	4,678	4,026	4,188	3,685	3,856	3,308
58 U OF ILL MEDICAL CENTER	5,142	3,990	3,553E	3,747	3,688	2,714	1,924E	2,222
59 UNIVERSITY OF VIRGINIA	5,140E	4,283	3,583	2,550	3,828E	3,190	2,509	1,632
60 GEORGETOWN UNIVERSITY	5,139	4,546	4,990	4,035	2,853	2,861	3,084	2,402
TOTAL 1ST 60 INSTS.	812,234	761,676	689,351	608,928	614,354	581,279	526,663	468,591
61 U OF CAL IRVINE	4,695	4,395	5,199	3,687	3,736	3,519	4,295	2,959
62 UNIVERSITY OF LOUISVILLE	4,463	4,098	2,839	726I	3,116	2,722	1,892	593I
63 UNIVERSITY OF ARIZONA	4,270	3,841	3,072	3,013	3,086	2,741	2,349	2,689
64 U TEX GALVESTON MED BRAN	4,253	3,515	2,843	2,150	2,595	2,222	2,344	1,679
65 TULANE UNIVERSITY	4,253	4,572	4,388	4,128	2,409	2,590	2,486	2,339
66 PENNSYLVANIA STATE UNIV	4,231	3,091	586	1,895	3,119	1,930	21	997
67 UNIV OF KENTUCKY ALL CAM	4,209I	3,319	4,246	2,667E	1,455I	1,357	2,296	1,354E
68 MED COLLEGE OF WISCONSIN	3,928	4,425	4,159	3,500	2,763	2,745	2,974	2,162
69 U TEX HLTH SCI CTR HOUSTN	3,831	3,195	2,291	3,550	3,044	2,768	1,973	3,304
70 SUNY UPSTATE MEDICAL CTR	3,682	5,098	4,018	3,036	2,391	2,413	1,937	1,462
TOTAL 1ST 70 INSTS.	854,049	801,229	722,992	637,280	642,068	606,286	545,230	488,129
71 TUFTS UNIVERSITY	3,456	3,692	1,863	3,047	2,084	3,037	1,499	2,213
72 UNIVERSITY OF NEW MEXICO	3,425	3,756	3,443	1,176	1,845	3,110	2,796	945
73 U TEX HLTH SCI CR SAN ANT	3,307	3,357	3,282	2,547	2,375	2,491	2,451	1,892
74 MED COLL OHIO AT TOLEDO	3,139	3,001	1,095	931	2,311E	2,232E	830	755
75 NEW YORK MEDICAL COLLEGE	3,090E	3,046E	3,006	3,681	2,506E	2,495E	2,521	2,944
76 WAYNE STATE UNIVERSITY	3,089	2,802	2,321	1,768	2,258	1,742	1,537	1,297
77 UNIVERSITY OF KANSAS	2,999	3,580	3,182	4,287E	2,685	2,898	2,673	4,272
78 PURDUE UNIV ALL CAMPUSES	2,785	2,796	1,976	2,199	1,672	1,764	1,141	1,075
79 LOUISIANA ST UNIV SYSTEM	2,706	2,296	2,218	1,992	2,260	1,851	1,929	1,444
80 COL OF MED & DENT OF N J	2,691	1,905	3,904	1,570	2,147	1,419	2,993	1,039
TOTAL 1ST 80 INSTS.	884,736	831,460	749,282	660,478	664,211	625,325	569,600	506,005
81 HOWARD UNIVERSITY	2,660	2,514	2,363	1,859E	2,267	2,141E	2,011E	1,713E
82 UNIV OF MISSISSIPPI	2,527E	3,724	2,828	2,459	1,994E	2,424	1,893	1,402
83 MED UNIV OF SO CAROLINA	2,404	2,164	1,879	1,606	1,738	1,543	1,514	1,162
84 BROWN UNIVERSITY	2,336	1,843	1,569	1,576	1,678	1,256	1,274E	1,408
85 U OF ARKANSAS MED SCI CAM	2,304	2,302	1,650	1,613	1,846	1,534	1,156	1,084
86 SUNY AT STONY BROOK	2,300	2,322	1,416	644	1,889	2,236	1,221	619
87 ST LOUIS UNIV	2,245I	2,060	4,023	1,132	1,923I	1,764	3,459	661
88 IOWA ST U OF SCI & TECH	2,137	1,856	1,723	1,701	472	323	362	437
89 TEXAS A & M UNIVERSITY	2,086	934	760	741	706	247	162	400
90 UNIV OKLAHOMA	2,080	2,065	1,832	1,412	1,537	1,845	1,650	1,213
TOTAL 1ST 90 INSTS.	907,815	853,244	769,325	675,221	680,661	644,638	584,302	516,104
91 WAKE FOREST UNIVERSITY	2,051	1,811	2,230	1,868	1,573	1,418	1,808	1,522
92 HAHNEMANN MED COL & HOSP	1,913	1,497	975	1,300	1,471	986	691	1,150
93 LOMA LINDA UNIVERSITY	1,829	1,194	1,026	690	999	647	749	450
94 RUSH UNIVERSITY	1,620	2,263	1,994	3,367	1,038	1,616	1,422	2,532
95 UNIVERSITY OF GEORGIA	1,483	1,479	1,019	979	672	362	512	370
96 OKLAHOMA STATE UNIVERSITY	1,412	1,196	1,063	0	966	813	622	0
97 UNIV ILLINOIS URBANA	1,409	1,199	1,073	1,039	949	797	781	691
98 WASHINGTON STATE UNIV	1,404	998	789	988	1,079	820	705	665
99 MEDICAL COLL OF GEORGIA	1,337	1,677	1,643	1,863	800	791	791	896
100 WEST VIRGINIA UNIVERSITY	1,253	2,017	1,350	1,241	932	1,785	1,194	923
TOTAL 1ST 100 INSTS.	923,526	868,575	782,487	688,556	691,140	654,673	593,577	525,303
TOTAL ALL OTHER INSTS.	24,747	27,687	29,058	27,524	15,007	18,632	20,221	18,360

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-40. PSYCHOLOGY R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	83,014	77,166	79,942	74,392	62,313	58,317	61,193	58,554
1 UNIVERSITY OF MICHIGAN	6,412	6,404	5,945	4,629	2,755	3,015	2,911	2,358
2 UNIV OF WISCONSIN-MADISON	4,406	3,971	4,177	4,417	3,076	3,109	2,925	3,212
3 UNIVERSITY OF KANSAS	4,313	3,937	4,078	3,871	3,341	3,223	3,539	3,209
4 ROCKEFELLER UNIVERSITY	3,249	2,982	2,783	2,261	1,653	1,444	1,391	1,171
5 RUTGERS THE STATE UNIV	3,051	1,835E	1,907	850	2,411	1,396E	1,333	577
6 UNIV OF TEXAS AT AUSTIN	2,420	2,399	2,083	1,641	2,070	2,074	1,748	1,290
7 UNIVERSITY OF MINNESOTA	2,367	2,568	1,326	917	1,966	2,150	690	770
8 TEXAS CHRISTIAN UNIV	2,161I	1,201	1,298	1,005	2,051I	1,147	1,220E	944
9 U OF CAL LOS ANGELES	1,961	2,095	3,115	2,685	1,869	1,920	2,980	2,544
10 UNIV ILLINOIS URBANA	1,880	1,367	1,954	1,807	1,655	1,108	1,628	1,499
TOTAL 1ST 10 INSTS.	32,220	28,759	28,666	24,083	22,847	20,586	20,365	17,574
11 MASS INST OF TECHNOLOGY	1,725	1,553	1,136	1,339	1,555	1,334	996	929
12 U OF CAL BERKELEY	1,696	1,837	1,871	1,963	1,005	1,108	1,128	1,257
13 GEO PEABODY COL TEACHERS	1,654	1,597	1,494	2,110	1,557	1,414	1,281	2,040
14 YALE UNIVERSITY	1,409	909	943	1,090	1,232	799	800	939
15 UNIVERSITY OF COLORADO	1,297	1,658	1,291	2,077	1,111	1,285	1,016	1,605
16 HARVARD UNIVERSITY	1,263	1,165	1,163	912	1,C78	931	929	788
17 STANFORD UNIVERSITY	1,197	1,019	900	783	1,161	962	789	711
18 UNIVERSITY OF WASHINGTON	1,155	809	917	635	985	515	641	458
19 UNIVERSITY OF CONNECTICUT	1,136	751	499	501	428	327	268	286
20 UNIVERSITY OF CHICAGO	1,125	1,116	817	989	1,002	567	710	919
TOTAL 1ST 20 INSTS.	45,877	41,173	39,697	36,482	33,961	30,228	28,923	27,506
21 UNIVERSITY OF ROCHESTER	936	907	915	2,074	620	618	662	1,754
22 YESHIVA UNIVERSITY	838I	852	751	804	838I	852	751	804
23 FLORIDA STATE UNIVERSITY	837	803	537	1,119	409E	391E	338	918
24 PRINCETON UNIVERSITY	816	858	900	961	693	707	728	713
25 PURDUE UNIV ALL CAMPUSES	810	751	689	670	560	585	538	526
26 UNIVERSITY OF OREGON	804	743	547	363	632	616	541	362
27 NORTHWESTERN UNIVERSITY	775	721	533	306	767	690	518	260
28 U OF CAL SAN DIEGO	754	615	596	419	742	592	572	398
29 CARNEGIE-MELLON UNIV	704	605	538	489	554	492	501	451
30 BROWN UNIVERSITY	680	553	469	403	572	532	460	403
TOTAL 1ST 30 INSTS.	53,831	48,581	46,172	44,090	40,348	36,303	34,532	34,095
31 UNIVERSITY OF DENVER	637	502	416	422	420	353	362	385
32 PENNSYLVANIA STATE UNIV	637	716	541	585	131	415	417	386
33 UNIVERSITY OF GEORGIA	611	603	289	275	274	310	288	211
34 UNIV OF MASS AT AMHERST	609	641	721	879	460	473	571	718
35 UNIV OF PENNSYLVANIA	602	899	387	500	538	588	313	427
36 UNIVERSITY OF PITTSBURGH	597	656	488	269	529	650	469	266
37 COLUMBIA UNIV MAIN DIV	565	483	450	295	526	406	366	183
38 JOHNS HOPKINS UNIVERSITY	542	598	474	616	422	401	226	505
39 MICHIGAN STATE UNIVERSITY	519	429	823	1,521	327	279	761	1,480
40 UNIV OF STHRN CALIFORNIA	476	403	372	363	471	395	372	363
TOTAL 1ST 40 INSTS.	59,626	54,511	51,133	49,815	44,446	40,573	38,677	39,019
41 UNIV OF MD COLLEGE PARK	456	389	339	231	416	375	334	223
42 INDIANA UNIV-BLOOMINGTON	455	400	439	360	449	380	423	356
43 UNIVERSITY OF UTAH	451	448	399	390	404	419	395	311
44 COLUMBIA UNIV TCHRS COL	442	391	442E	352	339	221	182	263
45 SUNY AT STONY BROOK	424	589	537	789	373	471	537	722
46 CUNY GRAD SCH & UNIV CTR	402	561	1,301	667	392	542	1,271	566
47 UNIVERSITY OF IOWA	401	225	278	312	218	128	140	197
48 DUKE UNIVERSITY	393	405	368	433	381	394	347	382
49 UNIV OF SOUTH FLORIDA	390	110I	134	25	172	92I	64	18
50 STEVENS INSTITUTE OF TECH	388	230	271	240	0	0	0	0
TOTAL 1ST 50 INSTS.	63,628	58,259	55,641	53,614	47,590	43,595	42,370	42,057

SEE FOOTNOTES AT END OF TABLE.

TABLE B-40. PSYCHOLOGY R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
51 UNIV OF MISSOURI COLUMBIA	369	591	319	86	97	296	77	77
52 VANDERBILT UNIVERSITY	359	386	293	252	336	365	281	234
53 SAN DIEGO STATE UNIV	357	705	752	1,273	342	688	751	1,271
54 SUNY AT BUFFALO	349	275	134	157	343	275	130	140
55 LOMA LINDA UNIVERSITY	347	216	186	125	257	159	185	111
56 UNIVERSITY OF HOUSTON	335	284	649	608	156	84	645	608
57 UNIVERSITY OF FLORIDA	335	165	217	230	318	150	205	230
58 NEW YORK UNIVERSITY	334	425	571	715	306	400	538E	682
59 NEW SCH FOR SOC RESEARCH	334	101	131	92E	334	81	31	62E
60 WASHINGTON UNIVERSITY	327	309	221	174	323	298	218	170
TOTAL 1ST 60 INSTS.	67,274	61,625	58,996	57,326	50,402	46,318	45,403	45,642
61 UNIV OF NC AT CHAPEL HILL	326	343	404	323	315	335	386	323
62 OHIO STATE UNIVERSITY	324	225	206	241	277	204	182	239
63 KENT STATE UNIVERSITY	318	128	154	87	199	105	103	54
64 UNIV OF SOUTH DAKOTA	310	337	245	206	245	295	228	196
65 UNIV OF NEVADA - RENO	299	126	147	174	299	126	59	174
66 BOWLING GREEN STATE UNIV	295	328	290	305	231	245	183	203
67 UNIV OF VT & ST AGRIC COL	294	300	442	303	245	288	415	289
68 NORTHEASTERN UNIVERSITY	287	296	235	228	274	274	235	228
69 CORNELL UNIVERSITY	278	141	159	163	159	130	132	127
70 UNIV OF WEST FLORIDA	273	109	0	0	212	97	0	0
TOTAL 1ST 70 INSTS.	70,278	63,958	61,278	59,356	52,858	48,417	47,326	47,475
71 UNIVERSITY OF VIRGINIA	266E	222	243	171	208E	173	197	122
72 ARIZONA STATE UNIVERSITY	262	164	297	173	245	154	283	131
73 UNIVERSITY OF DELAWARE	261	249	91	198	199	132	54	124
74 US NAVAL POSTGRAD SCHOOL	259	0	0	0	259	0	0	0
75 CUN. BROOKLYN COLLEGE	248	202	187	111	199	119	109	101
76 CLARK UNIVERSITY	242	164	153	117	226	152E	126	117
77 U OF CAL SANTA CRUZ	240	156	13	0	195	122	1	0
78 UNIV OF NEBRASKA - LNCLN	237	23	227	127	73	16	62	47
79 SUNY BINGHAMTON	231	199	150	92	197	178	115	68
80 CASE WESTERN RESERVE UNIV	225	157	230	156	179	130	161	130
TOTAL 1ST 80 INSTS.	72,749	65,494	62,869	60,401	54,838	49,593	48,434	48,224
81 UNIV OF MASS BOSTON	224	11	8	7E	86	7	7	7E
82 UNIV OF NEW ORLEANS	224	381	0	2	74	226	0	0
83 U OF WIS MILWAUKEE	219	208	412	133	115	90	243	38
84 SYRACUSE UNIVERSITY	214	230	88	164	214	230	88	164
85 CLAREMONT GRAD SCHOOL	211	219	166	41	154	210	166	31
86 IOWA ST U OF SCI & TECH	203	176	129	83	57	39	19	0
87 UNIV OF MAINE ORONO	201	175	163	109E	124	61	107	58E
88 GEORGIA STATE UNIV	199	176	166	43	119	176E	119	32
89 CUNY QUEENS COLLEGE	195	134	191	330	88	62	102	252
90 TULANE UNIVERSITY	193	207	199	187	176	189	181	170
TOTAL 1ST 90 INSTS.	74,832	67,411	64,391	61,463	56,045	50,883	49,466	48,948
91 BRANDEIS UNIVERSITY	193	76	23	23	189	49	16	16
92 GEORGE WASHINGTON UNIV	186	170	350	133	185	164	300	125
93 COLORADO STATE UNIVERSITY	173	177	230	420	149	166	210	390
94 CITY COLLEGE OF CUNY	171	254	66	511	155	221	66	431
95 UNIV OF HAWAII-MANOA	170	225	177	114	170	225E	147	85
96 LOUISIANA ST UNIV SYSTEM	167	159	222	256	106	110	146	161
97 CATHOLIC UNIV OF AMERICA	162	89	168	92	150	82	162	78
98 U OF CAL RIVERSIDE	161	128	295	103	142	116	263	80
99 WESTERN WASHINGTON UNIV	160	80	118	101	160	77	112	98
100 UNIV OF ILL CHICAGO CIR	158	73	146	170	76	42	110	108
TOTAL 1ST 100 INSTS.	76,533	68,842	66,186	62,926	57,527	52,135	50,998	50,132
TOTAL ALL OTHER INSTS.	6,481	8,324	13,756	11,466	4,786	6,182	10,195	8,422

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SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-41. SOCIAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-	POLITICAL	SOCIO-	OTHER
	1977	1976	1975	1974	NOMICS	SCIENCE	LOGY	
UNITED STATES TOTAL	269,481	266,855	256,633	241,141	70,206	32,496	61,258	105,521
1 UNIVERSITY OF MICHIGAN	14,240	13,590	14,180	11,815	1,215	2,762	8,718	1,545
2 UNIV OF WISCONSIN-MADISON	12,091	12,256	12,756	12,788	2,272	180	4,376	5,263
3 UNIV OF PENNSYLVANIA	9,783	9,522	8,528	6,638	1,317	670	932	6,864
4 HARVARD UNIVERSITY	8,626	6,617	7,490	7,820	3,746	941	477	3,462
5 U OF CAL BERKELEY	8,193	7,871	7,281	7,010	2,386	3,090	280	2,437
6 UNIV ILLINOIS URBANA	7,163	6,502	5,085	4,489	2,316	145	243	4,459
7 U OF CAL LOS ANGELES	6,585	5,511	3,252	3,170	1,246	1,174	490	3,675
8 UNIVERSITY OF GEORGIA	5,617	5,561	1,613	1,478	1,672	234	427	3,484
9 FLORIDA STATE UNIVERSITY	5,766	5,937	5,339	3,043	132	122	1,254	4,258
10 UNIVERSITY OF OREGON	5,070	4,908	3,921	3,820	509	86	106	4,369
TOTAL 1ST 10 INSTS.	83,334	78,275	69,445	62,071	16,811	9,404	17,303	39,816
11 UNIV OF TEXAS AT AUSTIN	4,806	6,475	4,731	6,207	1,779	482	1,859	686
12 STANFORD UNIVERSITY	4,673	4,982	5,301	5,331	415	43	197	4,018
13 OHIO STATE UNIVERSITY	4,342	4,312	3,909	3,882	839	666	545	2,292
14 MICHIGAN STATE UNIVERSITY	4,123	3,789	6,473	5,335	2,381	119	1,463	160
15 UNIV OF NC AT CHAPEL HILL	4,118	4,142	3,715	3,334	243	24	1,663	2,188
16 CORNELL UNIVERSITY	4,037	3,755	3,983	3,675	2	516	958	2,561
17 IOWA ST U OF SCI & TECH	3,678	3,195	2,584	2,000	2,417	0	865	396
18 UNIVERSITY OF ARIZONA	3,548	3,190	2,603	2,339	1,129	186	251	1,982
19 UNIVERSITY OF MINNESOTA	3,379	3,756	4,827	6,111	1,120	750	679	830
20 UNIVERSITY OF CHICAGO	3,314	3,305	3,836	4,267	835	93	934	1,452
TOTAL 1ST 20 INSTS.	123,352	119,176	111,407	104,552	27,971	12,283	26,717	56,381
21 GEORGE WASHINGTON UNIV	3,230	2,390	1,903	2,011	177	0	1,233	1,820
22 PURDUE UNIV ALL CAMPUSES	3,198	3,012	2,522	1,806	2,639	54	213	292
23 UNIV OF MISSOURI COLUMBIA	3,188	2,221	1,479	1,376	1,203	9	553	1,423
24 UNIVERSITY OF DENVER	3,163	2,905	3,038	2,592	1,371	1,092	629	71
25 COLUMBIA UNIV MAIN DIV	2,954	3,312	4,612	3,494	1,158	451	1,281	64
26 MASS INST OF TECHNOLOGY	2,891	2,769	3,219	3,843	1,668	821	35	367
27 YALE UNIVERSITY	2,547	2,014	2,356	2,157	977	34	75	1,461
28 NEW YORK UNIVERSITY	2,532	3,388	3,280	2,941	509	429	68	1,526
29 RUTGERS THE STATE UNIV	2,452	3,872E	4,025	4,262	1,205	640	532	75
30 PRINCETON UNIVERSITY	2,419	2,569	1,904	2,515	952	536	867	64
TOTAL 1ST 30 INSTS.	151,926	147,628	139,745	131,549	39,830	16,349	32,203	63,544
31 WEST VIRGINIA UNIVERSITY	2,388	1,816	481	443	600	293	203	1,292
32 GEORGIA INSTITUTE OF TECH	2,371	2,435	1,084	1,161	2,160	105	106	0
33 UNIV OF STHRN CALIFORNIA	2,333	2,585	2,657	2,121	112	247	1,974	0
34 JOHNS HOPKINS UNIVERSITY	2,117	1,827	2,282	2,165	49	699	1,114	255
35 PENNSYLVANIA STATE UNIV	2,081	4,281	5,289	4,623	906	838	0	337
36 UNIVERSITY OF IDAHO	2,077	1,248	775	578	943	49	300	785
37 UNIVERSITY OF WASHINGTON	1,977	1,333	2,214	1,204	110	400	537	930
38 INDIANA UNIV-BLOOMINGTON	1,872	2,533	2,109	1,759	11	567	286	1,008
39 UNIVERSITY OF ALASKA	1,829	1,667	1,940	2,176	446	398	361	624
40 U OF CAL DAVIS	1,758	1,476E	1,298	1,932	778	518	18	444
TOTAL 1ST 40 INSTS.	172,729	168,829	159,874	149,711	45,945	20,463	37,102	69,219
41 TEMPLE UNIVERSITY	1,755	1,992	2,368	1,523	162	17	1,544	32
42 UNIV OF NEBRASKA - LNCLN	1,671	1,342	954	1,032	983	6	210	472
43 CARNEGIE-MELLON UNIV	1,618	1,539	1,416	1,242	562	781	275	0
44 COLORADO STATE UNIVERSITY	1,560	2,632	2,641	1,548	1,091	113	316	40
45 TEXAS A & M UNIVERSITY	1,558	1,967	661	595	478	80	109	891
46 UNIV OF KENTUCKY ALL CAM	1,527I	1,263	1,048	1,010E	411I	18I	533I	565I
47 UNIVERSITY OF FLORIDA	1,459	1,523	872	991	1,141	13	5	300
48 AMERICAN UNIVERSITY	1,456	1,685	1,654	1,424	0	4	0	1,452
49 BRANDEIS UNIVERSITY	1,446	1,577	1,973	1,974	107	8	1,167	164
50 DUKE UNIVERSITY	1,398	1,303	1,318	1,197	156	328	324	590
TOTAL 1ST 50 INSTS.	188,177	185,652	174,779	162,247	51,036	21,831	41,585	73,725

SEE FOOTNOTES AT END OF TABLE.

TABLE B-41. SOCIAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-	POLITICAL	SOCIO-	OTHER
	1977	1976	1975	1974	NOMICS	SCIENCE	LOGY	
51 UNIV OKLAHOMA	1,363	1,130	688	802	485	812	7	59
52 UNIV OF WEST FLORIDA	1,361	647	479	499	20	137	42	1,162
53 SUNY COLLEGE FREDONIA	1,332	1,005	756	27	0	0	0	1,332
54 UNIVERSITY OF CONNECTICUT	1,306	2,350	2,025	1,817	39	327	627	313
55 UNIV OF MD COLLEGE PARK	1,300	815	784	565	682	331	130	157
56 BRIGHAM YOUNG UNIVERSITY	1,286	1991	1,036E	879	2	0	390	894
57 SYRACUSE UNIVERSITY	1,277	1,354	1,954	1,699	47	305	279	646
58 UNIV OF HAWAII-MANOA	1,268	1,353	1,482	1,107	357	0	209	702
59 WASHINGTON STATE UNIV	1,225	784	804	658	690	2	533	0
60 UNIVERSITY OF COLORADO	1,225	1,075	1,045	1,557	225	134	43	823
TOTAL 1ST 60 INSTS.	201,120	196,364	185,832	171,857	53,583	23,879	43,845	79,813
61 OREGON STATE UNIVERSITY	1,207	1,127	976	1,060	834	11	155	207
62 UNIVERSITY OF MONTANA	1,201	1,170	1,155	1,181	120	14	740	327
63 UNIV OF MASS AT AMHERST	1,192	1,307	1,911	1,657	300	333	394	165
64 UNIVERSITY OF HOUSTON	1,191	652	795	310	59	153	916	63
65 LOUISIANA ST UNIV SYSTEM	1,154	1,224	1,148	1,186	838	23	163	130
66 UTAH STATE UNIVERSITY	1,135	1,041	431	624	799	24	238	74
67 UNIV OF MAINE ORONO	1,110	1,624	1,246	867E	400	125	35	550
68 OKLAHOMA STATE UNIVERSITY	1,108	961	1,763	1,561	269	0	37	802
69 UNIVERSITY OF KANSAS	1,050	710	465	858	243	39	11	757
70 UNIVERSITY OF NEW MEXICO	1,028	911	351	218	937	21	4	66
TOTAL 1ST 70 INSTS.	212,496	207,091	196,073	181,379	58,382	24,622	46,538	82,954
71 UNIVERSITY OF IOWA	1,021	707	1,019	776	198	209	205	409
72 UNIVERSITY OF PITTSBURGH	991	269	200	139	81	99	338	473
73 ST LOUIS UNIV	986I	905	500	279	18I	221I	387I	360I
74 U OF WIS MILWAUKEE	959	1,003	724	453	20	116	545	278
75 MISSISSIPPI STATE UNIV	947	869	768	1,035	796	0	151	0
76 GALLAUDET COLLEGE	921	510E	260	346	0	0	0	921
77 UNIVERSITY OF DELAWARE	901	441	404	546	419	126	108	248
78 WAYNE STATE UNIVERSITY	884	735	717	448	197	58	227	402
79 CASE WESTERN RESERVE UNIV	856	1,163	813	704	68	0	261	527
80 BROWN UNIVERSITY	844	570	845	590	104	164	178	398
TOTAL 1ST 80 INSTS.	221,806	214,263	202,323	186,695	60,283	25,615	48,938	86,970
81 U OF CAL IRVINE	838	779E	763	539	0	454	8	376
82 U OF CAL SANTA BARBARA	817	739	633	342	21	317	302	177
83 UNIVERSITY OF MIAMI	803	861	780	787	42	0	9	752
84 NORTHWESTERN UNIVERSITY	785	1,041	1,137	799	182	186	22	395
85 NEW MEXICO STATE UNIV	778	694	675	1,394	107	33	0	638
86 CUNY GRAD SCH & UNIV CTR	774	555	956	1,508	20	47	234	473
87 UNIV OF MASS BOSTON	751	5	28	26E	114	12	625	0
88 UNIVERSITY OF ROCHESTER	716	759	701	742	202	60	29	425
89 SOUTHERN ILL U-CARBONDALE	694	973	169	169	46	145	182	321
90 US NAVAL POSTGRAD SCHOOL	689	149	11	6	352	199	138	0
TOTAL 1ST 90 INSTS.	229,451	220,818	208,176	193,007	61,369	27,068	50,487	90,527
91 KANSAS ST UNIVERSITY	667	605	520	631	436	13	143	75
92 NC AG & TECH STATE UNIV	656	304	262	293	176	0	77	403
93 UNIVERSITY OF VIRGINIA	642E	535	431	174	0E	36E	151E	455E
94 AUBURN UNIVERSITY	629	576	508	516	629	0	0	0
95 UNIV OF MISSISSIPPI	628	1,314	984	769	149	127	287	65
96 UNIV OF MO K C	626	513	165	171	28	5	433	160
97 BOSTON COLLEGE	597	390	839	717	18	0	6	573
98 UNIVERSITY OF WYOMING	597	335	237	252	337	220	40	0
99 U PUERTO RICO RIO PIEDRAS	579	650	411	397E	10	4	14	551
100 NORTHEASTERN UNIVERSITY	550	476	416	355	395	24	0	131
TOTAL 1ST 100 INSTS.	235,622	226,516	212,949	197,282	63,547	27,497	51,638	92,940
TOTAL ALL OTHER INSTS.	33,859	40,339	43,684	43,859	6,659	4,999	9,620	12,581

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SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-42. FEDERALLY FINANCED SOCIAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-NOMICS	POLITICAL SCIENCE	SOCIO-LOGY	OTHER
	1977	1976	1975	1974				
UNITED STATES TOTAL	139,285	139,613	141,452	136,731	31,021	14,929	37,289	56,046
1 UNIVERSITY OF MICHIGAN	8,742	7,111	7,544	6,378	868	1,488	5,880	506
2 UNIV OF WISCONSIN-MADISON	6,642	6,527	6,552	8,251	1,006	16	2,918	2,702
3 STANFORD UNIVERSITY	4,206	4,450	4,542	4,833	360	43	179	3,624
4 UNIV OF PENNSYLVANIA	3,944	3,833	3,386	3,927	564	302	769	2,309
5 UNIVERSITY OF OREGON	3,858	4,179	3,853	3,609	383	7	55	3,413
6 HARVARD UNIVERSITY	3,686	2,845	3,572	3,870	1,005	268	171	2,242
7 U OF CAL BERKELEY	3,494	3,311	3,157	3,938	587	1,265	178	1,464
8 FLORIDA STATE UNIVERSITY	3,233E	3,478E	3,374	1,779	64E	41E	476E	2,652E
9 U OF CAL LOS ANGELES	3,073	2,604	1,146	1,236	240	259	217	2,357
10 UNIV ILLINOIS URBANA	3,052	2,303	1,675	1,602	630	96	132	2,194
TOTAL 1ST 10 INSTS.	43,930	40,641	38,801	39,427	5,707	3,785	10,975	23,463
11 OHIO STATE UNIVERSITY	2,989	3,531	3,220	3,243	363	346	357	1,923
12 GEORGE WASHINGTON UNIV	2,972	2,183	1,689	1,812	42	0	1,157	1,773
13 UNIV OF NC AT CHAPEL HILL	2,658	2,391	2,150	2,525	235	24	614	1,785
14 UNIVERSITY OF DENVER	2,410	2,167	2,399	1,652	1,054E	816	484	56
15 MICHIGAN STATE UNIVERSITY	2,124	2,263	3,802	3,508	1,381	74	596E	73
16 UNIV OF STHRN CALIFORNIA	2,067	1,955	2,209	1,848	73	235	1,759	0
17 YALE UNIVERSITY	2,034	1,564	1,846	1,932	731	17	75	1,211
18 MASS INST OF TECHNOLOGY	1,903	1,773	1,667	1,667	1,022	506	24	351
19 UNIVERSITY OF CHICAGO	1,879	1,698	2,374	2,228	605	35	849	390
20 CORNELL UNIVERSITY	1,865	1,864	1,928	1,523	2	235	650	978
TOTAL 1ST 20 INSTS.	66,831	62,030	62,085	61,361	11,215	6,073	17,540	32,003
21 UNIVERSITY OF ARIZONA	1,833	1,628	770	588	293	30	181	1,329
22 UNIV OF TEXAS AT AUSTIN	1,756	2,168	1,399	2,226	688	174	527	367
23 NEW YORK UNIVERSITY	1,749	2,278	1,982	1,748	495	0	13	1,241
24 PURDUE UNIV ALL CAMPUSES	1,736	1,727	1,387	956	1,374	19	125	218
25 COLUMBIA UNIV MAIN DIV	1,685	1,962	3,013	2,446	511	75	1,055	44
26 INDIANA UNIV-BLOOMINGTON	1,615	2,133	1,720	1,448	10	506	250	849
27 UNIV OF MISSOURI COLUMBIA	1,594	808	666	550	505	0	338	751
28 UNIVERSITY OF WASHINGTON	1,458	601	1,018	420	107	60	408	883
29 GEORGIA INSTITUTE OF TECH	1,335	1,609	582	567	1,228	54	53	0
30 JOHNS HOPKINS UNIVERSITY	1,320	1,070	1,581	1,775	31	134	1,000	155
TOTAL 1ST 30 INSTS.	82,912	78,014	76,203	74,085	16,457	7,125	21,490	37,840
31 AMERICAN UNIVERSITY	1,303	1,681	1,613	1,402	0	4	0	1,299
32 IOWA ST U OF SCI & TECH	1,224	838	877	489	842	0	374	8
33 BRANDEIS UNIVERSITY	1,163	1,273	1,757	1,704	99	0	999	65
34 UNIV OKLAHOMA	1,159	1,061	62[illegible]	711	412	691	5	51
35 UNIVERSITY OF GEORGIA	1,132	1,432	1,109	814	717	0	123	292
36 UNIVERSITY OF MINNESOTA	1,091	1,455	2,639	2,654	418	272	179	222
37 PRINCETON UNIVERSITY	1,072	1,229	775	783	232	201	578	61
38 DUKE UNIVERSITY	1,010	906	864	622	30	119	314	547
39 CARNEGIE-MELLON UNIV	981	1,007	951	757	393	500	88	0
40 COLORADO STATE UNIVERSITY	915	1,116	1,479	842	747	73	78	17
TOTAL 1ST 40 INSTS.	93,962	90,012	88,889	84,863	20,347	8,985	24,228	40,402
41 RUTGERS THE STATE UNIV	877	1,944E	1,856	1,839	482	0	324	71
42 PENNSYLVANIA STATE UNIV	824	1,253	1,932	1,334	174	498	0	152
43 UNIVERSITY OF IDAHO	807	601	347	208	370	19	241	177
44 UNIV OF KENTUCKY ALL CAM	794I	741	794	373E	301I	13I	327I	153I
45 UNIV OF MD COLLEGE PARK	768	417	344	233	272	285	86	125
46 TEMPLE UNIVERSITY	720E	655	950	858	133	0	568	19E
47 CUNY GRAD SCH & UNIV CTR	697	400	519	801	20	16	216	445
48 SYRACUSE UNIVERSITY	695	811	1,322	949	42	102	277	274
49 US NAVAL POSTGRAD SCHOOL	689	149	11	6	352	199	138	0
50 OREGON STATE UNIVERSITY	647	643	410	323	394	9	119	125
TOTAL 1ST 50 INSTS.	101,480	97,626	97,374	91,787	22,887	10,126	26,524	41,943

SEE FOOTNOTES AT END OF TABLE.

TABLE B-42. FEDERALLY FINANCED SOCIAL SCIENCE R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TRENDS				1977 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-	POLITICAL	SOCIO-	OTHER
	1977	1976	1975	1974	NOMICS	SCIENCE	LOGY	
51 U OF CAL SANTA BARBARA	643	577	445	233	0	267	217	159
52 UNIVERSITY OF ALASKA	635	744	963	1,349	190	171	154	120
53 TEXAS A & M UNIVERSITY	620	965	457	387	211	80	62	267
54 BROWN UNIVERSITY	612	436	676	403	96	108	101	307
55 U OF CAL IRVINE	601	634	624	335	0	358	2	241
56 NORTHWESTERN UNIVERSITY	566	594	565	556	133	43	20	370
57 UNIVERSITY OF NEW MEXICO	562	460	26	28	533	0	0	29
58 UNIV OF NEBRASKA - LNCLN	561	377	237	142	259	0	12	290
59 UNIV OF MASS AT AMHERST	559	572	607	779	112	101	264	82
60 U OF CAL DAVIS	557	835	558	953	270	181	2	104
TOTAL 1ST 60 INSTS.	107,396	103,820	102,532	96,952	24,691	11,435	27,358	43,912
61 UNIVERSITY OF ROCHESTER	545	635	463	472	170	49	25	301
62 CASE WESTERN RESERVE UNIV	537	750	393	341	46	0	247	244
63 UNIV OF HAWAII-MANOA	531	484	684	550	156	0	76	299
64 UNIVERSITY OF IOWA	529	269	519	453	143	55	173	158
65 UNIVERSITY OF VIRGINIA	529E	441	327	115	0	32E	132E	365E
66 UNIVERSITY OF MONTANA	524	522	508	349	9	0	393	122
67 UNIVERSITY OF COLORADO	514	585	681	1,225	65	62	3	384
68 MISSISSIPPI STATE UNIV	505	501	468	674	434	0	71	0
69 UTAH STATE UNIVERSITY	504	421	292	353	262	16	186	40
70 NC AG & TECH STATE UNIV	503	304	262	213	176	0	77	250E
TOTAL 1ST 70 INSTS.	112,617	108,732	107,129	101,697	26,152	11,649	28,741	46,075
71 UNIVERSITY OF CONNECTICUT	495	1,023	832	781	15	124	238	118
72 U OF CAL SAN FRANCISCO	492	183E	0	0	0	0	408	84
73 UNIV OF MISSISSIPPI	483	122E	62	74	143	0	286	54
74 U TENNESSEE KNOXVILLE	481	398	516	598	25	0	54	402
75 NEW MEXICO STATE UNIV	472	529	572	1,255	48	0	0	424
76 WEST VIRGINIA UNIVERSITY	453	479	131	100	15	32	170	236
77 WAYNE STATE UNIVERSITY	451	254	445	219	137	52	207	55
78 PORTLAND STATE UNIV	450	290	281	194E	0	2	448	0
79 U OF WIS MILWAUKEE	418	428	277	151	3	63	297	55
80 AUBURN UNIVERSITY	417	350	348	364	417	0	0	0
TOTAL 1ST 80 INSTS.	117,229	112,788	110,593	105,433	26,955	11,922	30,849	47,503
81 CLARK UNIVERSITY	416	250	83	19	0	0	0	416
82 CATHOLIC UNIV OF AMERICA	409	481	329	250	0	0	409	0
83 CALIFORNIA INST OF TECH	388	399	366	516	206	69	113	0
84 UNIVERSITY OF DELAWARE	386	221	232	325	193	30	19	144
85 SUNY AT STONY BROOK	382	782	316	1,090	0	157	198	27
86 UNIV OF MO K C	367	316	86	65	23	3	246	95
87 U OF CAL RIVERSIDE	363	284	92	226	2	2	127	232
88 CALIF STATE UNIV LA	359	381	352	309	0	66	0	293
89 UNIVERSITY OF MIAMI	355	611	577	535	36	0	6	313
90 GALLAUDET COLLEGE	352	0	47	169	0	0	0	352
TOTAL 1ST 90 INSTS.	121,006	116,513	113,073	108,937	27,415	12,249	31,967	49,375
91 GEORGETOWN UNIVERSITY	346	205	147	253	335	0	8	3
92 SAN DIEGO STATE UNIV	346	11	21	13	4	0	0	342
93 KANSAS ST UNIVERSITY	344	279	281	313	190	3	102	49
94 ST LOUIS UNIV	339I	311	322	236	6I	221I	105I	7I
95 VANDERBILT UNIVERSITY	338	261	227	502	22	120	196	0
96 TUFTS UNIVERSITY	334	330E	365	328	0	288	19	27
97 SUNY AT ALBANY	324	335	349	170	0	233	20	71
98 EASTERN NEW MEXICO UNIV	321	247	227	130	0	0	0	321
99 WASHINGTON STATE UNIV	312	300	446	380	53	2	257	0
100 UNIV OF NEW ORLEANS	305	0	21	46	0	0	0	305
TOTAL 1ST 100 INSTS.	124,315	118,792	115,479	111,308	28,025	13,116	32,674	50,500
TOTAL ALL OTHER INSTS.	14,970	20,821	25,973	25,423	2,996	1,813	4,615	5,546

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-43. TOTAL AND FEDERALLY FINANCED CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
ALL SOURCES										
TOTAL	529,492	666,997	1,070,727	951,873	914,844	840,461	836,412	1,016,519	1,041,030	960,430
ENGINEERING	71,699	95,119	126,304	132,623	87,307	57,955	91,784	118,390	81,716	88,233
PHYSICAL SCIENCES	130,700	182,678	283,811	225,268	68,223	108,868	89,271	80,280	73,521	65,239
ENVIRONMENTAL SCIENCES	1/	1/	1/	1/	96,295	26,624	24,178	35,241	47,791	28,393
MATHEMATICAL AND COMPUTER SCIENCES	22,792	31,856	55,104	38,160	24,712	20,016	23,669	15,042	24,677	23,592
LIFE SCIENCES	231,993	276,328	452,707	418,472	517,941	488,680	494,473	668,681	706,844	644,779
PSYCHOLOGY	21,720	19,734	34,425	22,036	19,007	39,566	15,511	11,530	9,119	12,737
SOCIAL SCIENCES	32,588	44,928	76,217	62,049	59,993	61,217	59,346	49,708	44,027	30,997
OTHER SCIENCES, NEC	18,000	16,354	42,159	53,265	41,366	37,535	38,180	37,647	53,335	66,460
FEDERAL GOVERNMENT										
TOTAL	134,439	212,397	340,447	279,316	239,193	226,743	225,511	269,965	206,622	195,496
ENGINEERING	10,946	25,049	39,432	38,263	23,439	15,751	42,681	64,026	20,140	17,277
PHYSICAL SCIENCES	29,701	67,300	95,178	63,107	18,551	24,473	20,619	18,832	19,138	21,894
ENVIRONMENTAL SCIENCES	1/	1/	1/	1/	17,827	5,873	7,059	5,884	6,313	9,317
MATHEMATICAL AND COMPUTER SCIENCES	4,052	11,469	13,676	9,536	4,341	3,022	4,257	2,584	2,048	1,882
LIFE SCIENCES	81,659	90,173	150,591	142,718	152,328	161,934	139,745	169,412	153,528	137,368
PSYCHOLOGY	2,121	4,310	10,342	4,848	3,663	5,101	2,528	2,236	1,955	2,388
SOCIAL SCIENCES	2,020	7,892	17,627	10,303	10,939	5,371	4,477	2,766	1,813	2,087
OTHER SCIENCES, NEC	3,940	6,204	13,601	10,541	8,105	5,218	4,145	4,225	1,687	3,283
OTHER SOURCES										
TOTAL	395,053	454,600	730,280	672,557	675,651	613,718	610,901	746,554	834,408	764,934
ENGINEERING	60,753	70,070	86,872	94,360	63,868	42,204	49,103	54,364	61,576	70,956
PHYSICAL SCIENCES	110,999	115,378	188,633	162,161	49,672	84,395	68,652	61,448	54,383	43,345
ENVIRONMENTAL SCIENCES	1/	1/	1/	1/	78,468	20,751	17,119	29,357	41,478	19,076
MATHEMATICAL AND COMPUTER SCIENCES	18,740	20,387	41,428	28,624	20,371	16,994	19,412	12,458	22,629	21,710
LIFE SCIENCES	150,334	186,155	302,116	275,754	365,613	326,746	354,728	499,269	553,316	507,411
PSYCHOLOGY	19,599	15,424	24,083	17,188	15,344	34,465	12,983	9,294	7,164	10,349
SOCIAL SCIENCES	30,568	37,036	58,590	51,746	49,054	55,846	54,869	46,942	42,214	28,910
OTHER SCIENCES, NEC	14,060	10,150	28,558	42,724	33,261	32,317	34,035	33,422	51,648	63,177

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN PHYSICAL SCIENCES.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-44. TOTAL AND FEDERALLY FINANCED CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES, BY FIELD AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

SOURCE AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
ALL SOURCES									
TOTAL	1,041,030	960,430	-7.7%	750,625	686,141	-8.6%	290,405	274,289	-5.5%
ENGINEERING	81,716	88,233	8.0	59,429	50,762	-14.6	22,287	37,471	68.1
PHYSICAL SCIENCES	73,521	65,239	-11.3	47,201	46,461	-1.6	26,320	18,778	-28.7
ENVIRONMENTAL SCIENCES	47,791	28,393	-40.6	31,059	22,245	-28.4	16,732	6,148	-63.3
MATHEMATICAL AND COMPUTER SCIENCES	24,677	23,592	-4.4	19,155	19,958	4.4	5,522	3,594	-34.9
LIFE SCIENCES	706,844	644,779	-8.8	502,343	447,510	-10.9	204,501	197,269	-3.5
PSYCHOLOGY	9,119	12,737	39.7	6,963	10,877	56.2	2,156	1,860	-13.7
SOCIAL SCIENCES	44,027	30,997	-29.6	40,484	27,353	-32.4	3,543	3,644	2.9
OTHER SCIENCES, NEC	53,335	66,460	24.6	43,991	60,935	38.5	9,344	5,525	-40.9
FEDERAL GOVERNMENT									
TOTAL	206,622	195,496	-5.4	126,449	119,322	-5.6	80,173	76,174	-5.0
ENGINEERING	20,140	17,277	-14.2	13,337	8,790	-34.1	6,803	8,487	24.8
PHYSICAL SCIENCES	19,138	21,894	14.4	11,513	13,379	16.2	7,625	8,515	11.7
ENVIRONMENTAL SCIENCES	6,313	9,317	47.6	4,289	6,571	53.2	2,024	2,746	35.7
MATHEMATICAL AND COMPUTER SCIENCES	2,048	1,882	-8.1	1,252	1,146	-8.5	796	736	-7.5
LIFE SCIENCES	153,528	137,368	-10.5	92,004	83,147	-9.6	61,524	54,221	-11.9
PSYCHOLOGY	1,955	2,388	22.1	1,402	1,766	26.0	553	622	12.5
SOCIAL SCIENCES	1,813	2,087	15.1	1,341	1,680	25.3	472	407	-13.8
OTHER SCIENCES, NEC	1,687	3,283	94.6	1,311	2,843	116.9	376	440	17.0
OTHER SOURCES									
TOTAL	834,408	764,534	-8.3	624,176	566,819	-9.2	210,232	198,115	-5.8
ENGINEERING	61,576	70,956	15.2	46,092	41,972	-8.9	15,484	28,984	87.2
PHYSICAL SCIENCES	54,383	43,345	-20.3	35,688	33,082	-7.3	18,695	10,263	-45.1
ENVIRONMENTAL SCIENCES	41,478	19,076	-54.0	26,770	15,674	-41.4	14,708	3,402	-76.9
MATHEMATICAL AND COMPUTER SCIENCES	22,629	21,710	-4.1	17,503	18,852	5.3	4,726	2,858	-39.5
LIFE SCIENCES	553,316	507,411	-8.3	410,339	364,363	-11.2	142,977	143,048	.0
PSYCHOLOGY	7,164	10,349	44.5	5,561	9,111	63.8	1,603	1,238	-22.8
SOCIAL SCIENCES	42,214	28,910	-31.5	39,143	25,673	-34.4	3,071	3,237	5.4
OTHER SCIENCES, NEC	51,648	63,177	22.3	42,680	58,092	36.1	8,968	5,085	-43.3

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-45. TOTAL AND FEDERALLY FINANCED CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT DOCTORATE-GRANTING INSTITUTIONS, BY FIELD AND CONTROL: FISCAL YEARS 1976 AND 1977

(DOLLARS IN THOUSANDS)

SOURCE AND FIELD	TOTAL			CONTROL					
				PUBLIC			PRIVATE		
	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77	1976	1977	% CHANGE 1976-77
ALL SOURCES									
TOTAL	972,586	914,823	-5.9%	696,715	647,922	-7.0%	275,871	266,901	-3.3%
ENGINEERING	69,948	85,216	21.8	49,389	48,672	-1.5	20,559	36,544	77.8
PHYSICAL SCIENCES	64,905	57,279	-11.7	41,841	39,977	-4.5	23,064	17,302	-25.0
ENVIRONMENTAL SCIENCES	41,184	26,152	-36.5	25,355	20,251	-20.1	15,829	5,901	-62.7
MATHEMATICAL AND COMPUTER SCIENCES	18,245	19,881	9.0	15,215	17,820	17.1	3,030	2,061	-32.0
LIFE SCIENCES	686,985	627,165	-8.7	485,504	431,328	-11.2	201,481	195,837	-2.8
PSYCHOLOGY	8,102	7,955	-1.8	6,335	6,526	3.0	1,767	1,429	-19.1
SOCIAL SCIENCES	36,518	29,001	-20.6	33,998	25,701	-24.4	2,520	3,300	31.0
OTHER SCIENCES, NEC	46,699	62,174	33.1	39,078	57,647	47.5	7,621	4,527	-40.6
FEDERAL GOVERNMENT									
TOTAL	196,655	190,834	-3.0	117,274	115,386	-1.6	79,381	75,448	-5.0
ENGINEERING	14,767	16,918	14.6	7,971	8,482	6.4	6,796	8,436	24.1
PHYSICAL SCIENCES	18,254	20,815	14.0	10,910	12,503	14.6	7,344	8,312	13.2
ENVIRONMENTAL SCIENCES	6,125	9,041	47.6	4,155	6,345	52.7	1,970	2,696	36.9
MATHEMATICAL AND COMPUTER SCIENCES	1,832	1,707	-6.8	1,084	1,065	-1.8	748	642	-14.2
LIFE SCIENCES	150,789	135,518	-10.1	89,581	81,583	-8.9	61,208	53,935	-11.9
PSYCHOLOGY	1,797	1,658	-7.7	1,263	1,068	-15.4	534	590	10.5
SOCIAL SCIENCES	1,525	1,989	30.4	1,101	1,585	44.0	424	404	-4.7
OTHER SCIENCES, NEC	1,566	3,188	103.6	1,209	2,755	127.9	357	433	21.3
OTHER SOURCES									
TOTAL	775,931	723,989	-6.7	579,441	532,536	-8.1	196,490	191,453	-2.6
ENGINEERING	55,181	68,298	23.8	41,418	40,190	-3.0	13,763	28,108	104.2
PHYSICAL SCIENCES	46,651	36,464	-21.8	30,931	27,474	-11.2	15,720	8,990	-42.8
ENVIRONMENTAL SCIENCES	35,059	17,111	-51.2	21,200	13,906	-34.4	13,859	3,205	-76.9
MATHEMATICAL AND COMPUTER SCIENCES	16,413	18,174	10.7	14,131	16,755	18.6	2,282	1,419	-37.8
LIFE SCIENCES	536,196	491,647	-8.3	395,923	349,745	-11.7	140,273	141,902	1.2
PSYCHOLOGY	6,305	6,297	-.1	5,072	5,458	7.6	1,233	839	-32.0
SOCIAL SCIENCES	34,993	27,012	-22.8	32,897	24,116	-26.7	2,096	2,896	38.2
OTHER SCIENCES, NEC	45,133	58,986	30.7	37,869	54,892	45.0	7,264	4,094	-43.6

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-46. CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES, BY STATE AND FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	FIELD OF SCIENCE								
	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	960,430	88,233	65,239	28,393	23,542	644,779	12,737	30,997	66,460
NEW ENGLAND	30,857	3,175	3,039	2,080	843	17,874	687	2,098	1,061
CONNECTICUT	15,764	931	1,299	205	38C	10,900	411	1,632	6
MAINE	257	30	4	0	0	255	0	8	0
MASSACHUSETTS	12,483	1,819	1,462	1,502	458	6,182	198	341	521
NEW HAMPSHIRE	1,151	178	149	307	2	312	7	80	116
RHODE ISLAND	66C	215	101	60	3	189	67	25	0
VERMONT	502	2	24	6	0	36	4	12	418
MIDDLE ATLANTIC	225,647	32,218	9,818	1,750	3,616	134,594	2,195	8,533	32,923
NEW JERSEY	41,705	713	2,354	148	473	36,633	904	135	345
NEW YORK	155,439	23,602	3,440	867	5C5	86,780	612	7,167	32,466
PENNSYLVANIA	28,503	7,903	4,024	735	2,638	11,181	679	1,231	112
EAST NORTH CENTRAL	164,909	10,988	12,C51	6,537	3,892	111,153	1,659	4,956	13,673
ILLINOIS	65,467	3,339	2,152	5,028	893	49,071	443	894	3,647
INDIANA	13,369	2,441	2,755	587	304	6,134	222	664	262
MICHIGAN	20,295	3,168	2,536	376	1,025	9,539	665	2,571	15
OHIO	22,900	1,698	2,536	433	909	13,381	280	279	3,384
WISCONSIN	42,878	342	1,672	113	761	33,028	49	548	6,365
WEST NORTH CENTRAL	105,694	5,704	1,563	1,365	2,179	92,7C0	539	1,436	208
IOWA	18,760	3,953	72	127	85	14,123	24	329	47
KANSAS	14,055	1,095	668	337	1,969	8,971	224	658	133
MINNESOTA	28,996	0	279	74	84	28,351	165	40	3
MISSOURI	18,812	457	337	810	26	16,665	122	395	0
NEBRASKA	21,269	1	12	0	1	21,244	4	7	0
NORTH DAKOTA	2,526	66	153	17	1	2,287	0	2	0
SOUTH DAKOTA	1,276	132	42	0	13	1,059	0	5	25
SOUTH ATLANTIC	112,118	6,897	9,390	3,315	8,458	75,415	4,391	3,845	407
DELAWARE	3,746	698	152	369	16	2,446	55	10	0
DISTRICT OF COLUMBIA	2,897	348	340	57	83	1,823	57	86	103
FLORIDA	20,332	963	1,C3C	1,726	3,542	12,777	106	185	3
GEORGIA	8,256	1,823	91C	341	285	4,252	56	420	129
MARYLAND	22,754	365	1,303	240	1,899	14,846	3,942	159	0
NORTH CAROLINA	25,978	1,746	3,36C	245	2C6	17,7C4	67	2,487	163
SOUTH CAROLINA	8,646	323	215	77	3	7,939	39	45	5
VIRGINIA	18,373	443	1,532	210	2,388	13,042	50	304	4
WEST VIRGINIA	1,136	188	148	50	36	546	19	149	0
EAST SOUTH CENTRAL	37,204	2,245	3,847	675	1,C34	21,241	1,084	234	6,844
ALABAMA	17,938	873	2,713	157	820	7,303	972	88	5,012
KENTUCKY	4,814	443	174	392	51	1,868	15	41	1,830
MISSISSIPPI	2,760	301	361	3	6	2,051	18	20	0
TENNESSEE	11,692	628	599	123	157	10,019	79	85	2
WEST SOUTH CENTRAL	111,793	7,803	12,337	1,207	756	82,8C5	191	2,935	3,719
ARKANSAS	5,023	121	163	63	3C5	4,219	24	63	65
LOUISIANA	13,344	3,433	1,515	257	43	8,030	22	38	6
OKLAHOMA	2,397	406	278	38	18	950	8	69	590
TEXAS	91,029	3,843	10,381	849	430	69,566	137	2,765	3,058
MOUNTAIN	39,577	4,612	4,030	4,610	1,384	22,420	465	1,039	1,017
ARIZONA	5,272	1,148	1,135	480	149	1,476	113	123	648
COLORADO	11,619	860	723	248	29	9,325	79	145	210
IDAHO	1,975	265	122	45	4	1,394	6	124	15
MONTANA	1,894	197	240	141	31	932	35	318	0
NEVADA	3,094	187	45	2,385	4	453	0	20	0
NEW MEXICO	6,868	729	256	349	967	4,523	15	23	6
UTAH	7,680	1,163	1,163	499	200	4,072	217	228	138
WYOMING	1,175	63	346	463	C	245	0	58	0
PACIFIC	131,065	14,005	9,C61	6,722	1,372	85,949	1,520	5,879	6,557
ALASKA	2,010	2	282	848	0	856	0	10	12
CALIFORNIA	81,408	11,576	4,838	3,120	728	54,576	1,214	617	4,739
HAWAII	8,510	0	284	277	0	4,691	0	3,258	0
OREGON	4,860	337	776	710	24	2,708	40	89	176
WASHINGTON	34,277	2,090	2,881	1,767	620	23,118	266	1,905	1,630
U.S. TERRITORIES	1,566	586	103	132	18	628	6	42	51

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-47. CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	960,430	88,233	65,239	28,393	23,592	644,779	12,737	30,997	66,460
1 NEW YORK UNIVERSITY	50,126	0	4	0	4	50,089	25	4	0
2 SUNY AT STONY BROOK	46,400	0	0	0	0	8,000	0	6,400	32,000
3 COL OF MED & DENT OF N J	34,966	0	0	0	0	34,966	0	0	0
4 UNIVERSITY OF MINNESOTA	28,444	0	132	0	1	28,273	6	32	0
5 UNIV OF WISCONSIN-MADISON	25,373	151	163	45	302	22,062	39	209	2,402
6 U OF CAL SAN FRANCISCO	24,168	0	0	0	0	23,163	1,005	0	0
7 U OF ILL MEDICAL CENTER	18,561	0	0	0	0	18,561	0	0	0
8 U TEX HLTH SCI CTR HOUSTN	18,452	0	0	0	0	18,452	0	0	0
9 RENSSELAER POLY INST	17,558	17,409	97	3	6	15	3	1	24
10 WASHINGTON STATE UNIV	17,372I	1,361I	1,125I	693I	413I	11,596I	149I	944I	1,091I
TOTAL 1ST 10 INSTS.	281,420	18,921	1,521	741	726	215,177	1,227	7,590	35,517
11 UNIVERSITY OF WASHINGTON	16,302	705	1,707	1,065	48	11,316	98	917	446
12 CHICAGO COL OF OSTEO MED	15,334	0	0	0	0	15,334	0	0	0
13 TEXAS TECH UNIVERSITY	14,662	962	95	22	113	9,363	11	2,406	1,686
14 JOHNS HOPKINS UNIVERSITY	14,633	110E	546E	222E	2E	13,723E	10E	20E	0
15 U TEX HLTH SCI CR SAN ANT	14,225	0	0	0	0	14,225	0	0	0
16 UNIVERSITY OF FLORIDA	14,036	732	303	340	2,975	9,641	33	12	0
17 COLUMBIA UNIV MAIN DIV	14,000	284	498	85	0	12,649	0	484	0
18 UNIVERSITY OF MICHIGAN	13,896	1,81\	1,565	256	899	6,183	601	2,518	0
19 UNIV OF TEXAS AT AUSTIN	13,790	764	8,706	455	156	2,139	50	248	1,272
20 VIRGINIA COMMONWLTH UNIV	13,500	0	794	0	2,306	10,400	0	0	0
TOTAL 1ST 20 INSTS.	425,798	24,352	15,739	3,186	7,225	320,150	2,030	14,195	38,921
21 LOUISIANA ST UNIV SYSTEM	11,779	3,258	1,323	254	33	6,894	0	17	0
22 U OF CAL BERKELEY	11,414	4,500	0	1,688	0	5,226	0	0	0
23 TEMPLE UNIVERSITY	11,125	4,992	300	17	950	4,125	397	344	0
24 MED COLLEGE OF WISCONSIN	10,541	0	0	0	0	10,541	0	0	0
25 UNIV OF NC AT CHAPEL HILL	10,144	0	0	0	0	7,798	0	2,346	0
26 IOWA ST U OF SCI & TECH	10,137	3,949	45	116	82	5,559	20	320	46
27 U OF NEB MED CTR	9,617	0	0	0	0	9,617	0	0	0
28 VANDERBILT UNIVERSITY	8,886	0	89	0	0	8,797	0	0	0
29 U TEX HLTH SCI CTR DALLAS	8,631	0	0	0	0	8,631	0	0	0
30 UNIV OF NEBRASKA - LNCLN	8,566	1	0	0	0	8,565	0	0	0
TOTAL 1ST 30 INSTS.	526,638	41,052	17,496	5,261	8,290	395,903	2,447	17,222	38,967
31 UNIVERSITY OF IOWA	8,539	4	0	0	0	8,535	0	0	0
32 UNIV OF HAWAII-MANOA	8,510	0	284	277	0	4,691	0	3,258	0
33 ST LOUIS UNIV	8,200I	0I	23I	10I	0I	8,167I	0I	0I	0I
34 UNIVERSITY OF CHICAGO	7,988	0	0	0	193	7,795	0	0	0
35 YALE UNIVERSITY	7,850	315	520	27	44	5,896	95	953	0
36 UNIV ILLINOIS URBANA	7,808	981	889	4,001	110	1,102	247	463	15
37 WASHINGTON UNIVERSITY	7,765	357	267	537	0	6,551	42	11	0
38 UNIVERSITY OF KANSAS	7,721	499	390	184	1,875	4,344	208	150	71
39 UNIVERSITY OF COLORADO	7,492	72	415	110	14	6,810	53	18	0
40 UNIVERSITY OF CONNECTICUT	7,419	612	621	153	244	4,819	309	661	0
TOTAL 1ST 40 INSTS.	605,930	43,892	20,905	10,560	10,770	454,613	3,401	22,736	39,053
41 UNIVERSITY OF ROCHESTER	7,369I	4,229I	390I	0I	141I	2,406I	53I	90I	60I
42 U OF CAL SAN DIEGO	6,657	0	0	0	0	2,923	0	0	3,734
43 BAYLOR COLLEGE OF MED	6,627	0	0	0	0	6,627	0	0	0
44 PURDUE UNIV ALL CAMPUSES	5,928	1,359	788	57	190	3,142	56	185	151
45 STANFORD UNIVERSITY	5,856	1,622	1,457	247	60	2,433	37	0	0
46 OHIO STATE UNIVERSITY	5,783	171	28	20	20	2,263	56	109	3,116
47 U OF CAL IRVINE	5,619	163	126	340	0	4,990	0	0	0
48 EAST CAROLINA UNIVERSITY	5,585	0	99	2	1	5,326	1	12	144
49 UNIV OF STHRN CALIFORNIA	5,501I	2,758I	181I	250I	275I	1,865I	54I	118I	0I
50 U TEX CAN CTR MDA H & TI	5,454	0	14	0	84	5,356	0	0	0
TOTAL 1ST 50 INSTS.	666,309	54,194	23,988	11,476	11,541	491,944	3,658	23,250	46,258

SEE FOOTNOTES AT END OF TABLE.

TABLE B-47. CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

- CONTINUED

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 KANSAS ST UNIVERSITY	5,121	286	215	151	87	4,234	8	78	62
52 CORNELL UNIVERSITY	5,064	526	820	50	0	3,594	54	8	12
53 U OF CAL DAVIS	5,038	0	0	0	0	5,038	0	0	0
54 UNIV ALABAMA HUNTSVILLE	5,023	63	21	46	4	6	4	0	4,879
55 BRIGHAM YOUNG UNIVERSITY	4,928I	389I	790I	300I	56I	2,919I	193I	177I	104I
56 MED UNIV OF SO CAROLINA	4,918	C	0	0	0	4,918	0	0	0
57 CALIFORNIA INST OF TECH	4,831	1,210	2,373	428	29	693	0	3	95
58 UNIV ALABAMA BIRMINGHAM	4,794	57	2,045	17	11	2,621	6	37	0
59 WRIGHT STATE UNIV	4,765	24	210	42	47	4,422	19	1	0
60 SOUTHERN ILL U-CARBONDALE	4,762	1,980	95	0	0	2,557	0	130	0
TOTAL 1ST 60 INSTS.	715,553	58,729	30,557	12,510	11,775	522,946	3,942	23,684	51,410
61 UNIVERSITY OF NEW MEXICO	4,745	224	138	24	0	4,346	4	5	4
62 LOYOLA UNIVERSITY	4,153	0	632	0	2	206	70	0	3,243
63 PENNSYLVANIA STATE UNIV	4,045	877	415	293	695	1,625	37	55	48
64 UNIV OF PENNSYLVANIA	3,999	319	651	10	37	2,431	46	503	2
65 U OF ARKANSAS MED SCI CAM	3,908	0	0	0	0	3,908	0	0	0
66 TOWSON STATE UNIV	3,878	0	0	0	0	0	3,878	0	0
67 N C STATE UNIV AT RALEIGH	3,869	1,589	295	43	130	1,788	14	10	0
68 UNIVERSITY OF DELAWARE	3,746	698	152	369	10	2,446	55	10	0
69 UNIVERSITY OF GEORGIA	3,683	0	181	284	64	2,770	40	344	0
70 SUNY AT BUFFALO	3,584	276	2	3	20	3,268	15	0	0
TOTAL 1ST 70 INSTS.	755,163	62,712	33,023	13,536	12,739	545,734	8,101	24,611	54,707
71 UNIVERSITY OF VIRGINIA	3,473E	418E	482E	143E	7E	2,114E	31E	274E	4E
72 U OF CAL LOS ANGELES	3,425	0	0	0	0	3,425	0	0	0
73 UNIV OF MD COLLEGE PARK	3,421	229	735	12	1,886	402	47	110	0
74 OHIO UNIVERSITY	3,335	213	362	10	491	2,250	5	4	0
75 UNIV OF KENTUCKY ALL CAM	3,319I	149I	0I	45I	38I	1,257I	0I	22I	1,808I
76 RUTGERS THE STATE UNIV	3,292I	178I	751I	84I	301I	736I	794I	106I	342I
77 CAL POLY ST U SN LUIS OB	3,259	632	69	8	34	2,515	0	1	0
78 UNIVERSITY OF ARIZONA	3,238	401	715	183	10	1,263	20	35	611
79 COLORADO STATE UNIVERSITY	3,223	364	165	122	3	2,455	4	107	3
80 HARVARD UNIVERSITY	3,108	0	47	0	0	3,061	0	0	0
TOTAL 1ST 80 INSTS.	788,256	65,296	36,349	14,143	15,509	565,212	9,002	25,270	57,475
81 CREIGHTON UNIVERSITY	3,068	0	8	0	0	3,059	1	0	0
82 CARNEGIE-MELLON UNIV	2,953	1,086	853	0	771	75	81	87	0
83 CLEMSON UNIVERSITY	2,901	175	12	2	0	2,703	0	4	5
84 UNIVERSITY OF MIAMI	2,878	69	90	655	0	2,050	7	6	1
85 BAYLOR COL OF DENTISTRY	2,839	C	0	0	0	2,839	0	0	0
86 IND U PURDUE/INDIANAPOLIS	2,807	191	104	1	6	2,376	32	49	48
87 WAYNE STATE UNIVERSITY	2,789	222	420	14	15	2,068	33	17	0
88 GEORGIA INSTITUTE OF TECH	2,756	1,758	582	46	214	41	7	52	56
89 PRINCETON UNIVERSITY	2,747	468	1,349	51	7	804	48	20	0
90 NC AG & TECH STATE UNIV	2,745	0	2,675	70	0	0	0	0	0
TOTAL 1ST 90 INSTS.	816,739	69,265	42,442	14,982	16,522	581,227	9,211	25,505	57,585
91 AUBURN UNIVERSITY	2,734	462	434	82	22	1,702	13	19	0
92 UNIVERSITY OF CINCINNATI	2,480	156	178	90	5	2,004	15	15	17
93 UNIV OF SOUTH ALABAMA	2,448	114	0	0	0	2,334	0	0	0
94 DESERT RESEARCH INSTITUTE	2,374	0	0	2,372	0	1	0	1	0
95 INDIANA UNIV-BLOOMINGTON	2,316	0	1,364	345	84	331	94	52	46
96 NORTH DAKOTA STATE UNIV	2,187	0	0	0	0	2,187	0	0	0
97 MICHIGAN STATE UNIVERSITY	2,136	109	817	78	12	1,078	12	18	12
98 UNION COLLEGE	2,076I	165I	332I	126I	24I	1,230I	81I	74I	44I
99 DUKE UNIVERSITY	2,057	125	155	114	61	1,556	22	24	0
100 WELLESLEY COLLEGE	2,055	267I	359I	28I	408I	477I	62I	182I	272I
TOTAL 1ST 100 INSTS.	839,602	70,663	46,081	18,217	17,138	594,127	9,510	25,890	57,976
TOTAL ALL OTHER INSTS.	120,828	17,570	19,158	10,176	6,454	50,652	3,227	5,107	8,484

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-48. FEDERALLY FINANCED CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	195,496	17,277	21,894	9,317	1,882	137,368	2,388	2,087	3,283
1 NEW YORK UNIVERSITY	12,872	0	0	0	0	12,872	0	0	0
2 UNIVERSITY OF MINNESOTA	9,005	0	0	0	0	9,005	0	0	0
3 JOHNS HOPKINS UNIVERSITY	7,336E	14E	205E	150E	0	6,952E	8E	7E	0
4 U TEX HLTH SCI CTR HOUSTN	6,639	0	0	0	0	6,639	0	0	0
5 ST LOUIS UNIV	4,847I	0I	19I	5I	0I	4,823I	0I	0I	0I
6 UNIVERSITY OF WASHINGTON	4,644	294	317	353	15	3,110	45	110	400
7 UNIVERSITY OF KANSAS	4,562	301	195	58	5	3,883	68	52	0
8 UNIV OF WISCONSIN-MADISON	4,154	0	2	0	0	4,146	4	1	1
9 STANFORD UNIVERSITY	3,583	883	1,067	54	60	1,493	26	0	0
10 U OF NEB MED CTR	3,491	0	0	0	0	3,491	0	0	0
TOTAL 1ST 10 INSTS.	61,133	1,492	1,805	620	80	56,414	151	170	401
11 CALIFORNIA INST OF TECH	3,237	864	1,731	274	6	293	0	0	69
12 UNIVERSITY OF NEW MEXICO	2,988	141	108	21	0	2,711	3	1	3
13 WASHINGTON STATE UNIV	2,974I	218I	294I	111I	29I	2,232I	31I	27I	32I
14 CREIGHTON UNIVERSITY	2,932	0	0	0	0	2,932	0	0	0
15 UNIV ILLINOIS URBANA	2,900	677	820	234	103	820	225	14	7
16 YALE UNIVERSITY	2,857	157	402	23	7	2,181	64	23	0
17 UNIV OF PENNSYLVANIA	2,765	154	557	9	33	1,748	44	220	0
18 PURDUE UNIV ALL CAMPUSES	2,668	477	509	22	4	1,610	31	15	0
19 CHICAGO COL OF OSTEO MED	2,621	0	0	0	0	2,621	0	0	0
20 UNIVERSITY OF MICHIGAN	2,466	343	176	137	18	1,494	58	240	0
TOTAL 1ST 20 INSTS.	89,541	4,523	6,402	1,451	280	75,056	607	710	512
21 WASHINGTON UNIVERSITY	2,448	264	155	5	0	1,972	42	10	0
22 COL OF MED & DENT OF N J	2,438	0	0	0	0	2,438	0	0	0
23 UNIVERSITY OF ROCHESTER	2,351I	1,195I	288I	0I	32I	785I	32I	0I	19I
24 UNIV OF TEXAS AT AUSTIN	2,318	424	431	231	9	294	34	24	871
25 CORNELL UNIVERSITY	2,300	287	600	46	0	1,330	31	4	2
26 UNIV OF STHRN CALIFORNIA	2,290I	1,243I	134I	152I	0I	739I	10I	12I	0I
27 UNIVERSITY OF IOWA	2,128	0	0	0	0	2,128	0	0	0
28 UNIV ALABAMA BIRMINGHAM	2,111	5	920	6	0	1,180	0	0	0
29 UNIV OF NC AT CHAPEL HILL	2,043	0	0	0	0	2,039	0	4	0
30 UNIVERSITY OF CONNECTICUT	1,960	103	97	47	12	1,613	41	47	0
TOTAL 1ST 30 INSTS.	111,928	8,044	9,027	1,938	333	89,574	797	811	1,404
31 U OF CAL BERKELEY	1,805	0	0	1,100	0	705	0	0	0
32 TEXAS TECH UNIVERSITY	1,723	4	0	0	1	1,699	0	11	8
33 UNIVERSITY OF VIRGINIA	1,645E	232E	256E	39E	2E	1,081E	12E	23E	0E
34 CLEMSON UNIVERSITY	1,601	104	4	0	0	1,488	0	2	3
35 UNIVERSITY OF COLORADO	1,577	67	400	107	4	944	53	2	0
36 DUKE UNIVERSITY	1,546	95	99	110	60	1,159	14	9	0
37 WOODS HOLE OCNGRPHIC INST	1,536	461	0	1,075	0	0	0	0	0
38 IOWA ST U OF SCI & TECH	1,510	70	25	25	13	1,205	12	128	32
39 INDIANA UNIV-BLOOMINGTON	1,487	0	1,126	87	36	184	21	19	14
40 MICHIGAN STATE UNIVERSITY	1,475	28	774	32	11	600	10	16	4
TOTAL 1ST 40 INSTS.	127,833	9,105	11,711	4,513	460	58,639	919	1,021	1,465
41 U OF ILL MEDICAL CENTER	1,419	0	0	0	0	1,419	0	0	0
42 COLORADO STATE UNIVERSITY	1,361	339	148	106	0	731	4	30	3
43 WAYNE STATE UNIVERSITY	1,344	46	200	0	0	1,087	11	0	0
44 UNIVERSITY OF FLORIDA	1,327	191	139	42	0	931	20	4	0
45 UNIVERSITY OF ARIZONA	1,299	118	431	49	0	619	19	15	48
46 UNIVERSITY OF UTAH	1,269I	319I	208I	52I	13GI	542I	6I	6I	0I
47 UNIVERSITY OF ALASKA	1,190	0	220	816	0	152	0	1	1
48 UNIVERSITY OF CHICAGO	1,168	0	0	0	0	1,168	0	0	0
49 PENNSYLVANIA STATE UNIV	1,166	187	292	199	0	480	1	1	6
50 UNIVERSITY OF PITTSBURGH	1,155	73	283	35	29	697	30	8	0
TOTAL 1ST 50 INSTS.	140,531	10,378	13,632	5,812	625	106,465	1,010	1,086	1,523

SEE FOOTNOTES AT END OF TABLE.

TABLE B-48. FEDERALLY FINANCED CAPITAL EXPENDITURES FOR SCIENTIFIC ACTIVITIES AT UNIVERSITIES AND COLLEGES BY FIELD OF SCIENCE: FISCAL YEAR 1977

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHO-LOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 UNIV ALABAMA HUNTSVILLE	1,132	23	13	31	0	1	4	0	1,060
52 SUNY AT BUFFALO	1,093	112	0	0	20	946	15	0	0
53 CARNEGIE-MELLON UNIV	1,081	356	281	0	356	26	47	15	0
54 U TEX HLTH SCI CTR DALLAS	1,056	0	0	0	0	1,056	0	0	0
55 BRIGHAM YOUNG UNIVERSITY	1,044I	125I	137I	34I	14I	711I	7I	8I	4I
56 NORTHWESTERN UNIVERSITY	985	123	148	1	2	507	15	17	172
57 U OF ARKANSAS MED SCI CAM	983	0	0	0	0	983	0	0	0
58 PRINCETON UNIVERSITY	979	243	459	11	2	262	2	0	0
59 U TEX HLTH SCI CR SAN ANT	968	0	0	0	0	968	0	0	0
60 YESHIVA UNIVERSITY	957I	0I	3I	0I	0I	949I	5I	0I	0I
TOTAL 1ST 60 INSTS.	150,809	11,364	14,673	5,889	1,019	112,874	1,105	1,126	2,759
61 CASE WESTERN RESERVE UNIV	953	381	82	9	0	475	4	2	0
62 UNIVERSITY OF WYOMING	935	47	280	374	0	187	0	47	0
63 UNIVERSITY OF MIAMI	929	36	49	336	0	505	2	1	0
64 OREGON STATE UNIVERSITY	918	96	77	419	0	237	0	1	88
65 UNIV OF MD COLLEGE PARK	906	127	516	3	11	188	38	23	0
66 U TEX CAN CTR MDA H & TI	891	0	8	0	68	815	0	0	0
67 BAYLOR COLLEGE OF MED	842	0	0	0	0	842	0	0	0
68 N C STATE UNIV AT RALEIGH	820	127	36	26	19	600	12	0	0
69 UNIVERSITY OF GEORGIA	817	0	107	18	5	652	17	18	0
70 GEORGIA INSTITUTE OF TECH	730	451	164	16	80	4	2	13	0
TOTAL 1ST 70 INSTS.	159,550	12,629	15,992	7,090	1,202	117,379	1,180	1,231	2,847
71 BOSTON UNIVERSITY	730	0	109	0	0	607	1	0	13
72 TEMPLE UNIVERSITY	725	0	124	0	0	595	6	0	0
73 LOUISIANA ST UNIV SYSTEM	718	24	69	92	0	533	0	0	0
74 U OF CAL SAN DIEGO	702	0	0	0	0	702	0	0	0
75 UNIV OF MASS AT AMHERST	688	93	286	33	12	241	8	15	0
76 US NAVAL POSTGRAD SCHOOL	688	370	98	68	144	0	0	8	0
77 WRIGHT STATE UNIV	685	2	130	0	5	548	0	0	0
78 UNIVERSITY OF CINCINNATI	680	68	49	36	1	518	2	1	5
79 ROCKEFELLER UNIVERSITY	646	0	63	0	0	521	62	0	0
80 OKLAHOMA STATE UNIVERSITY	625	41	66	11	5	500	0	2	0
TOTAL 1ST 80 INSTS.	166,437	13,227	16,986	7,330	1,369	122,144	1,259	1,257	2,865
81 TOWSON STATE UNIV	619	0	0	0	0	0	619	0	0
82 IND U PURDUE/INDIANAPOLIS	603	6	20	0	0	545	0	0	32
83 UNIVERSITY OF IDAHO	574	69	28	1	0	445	0	26	5
84 UNIVERSITY OF MONTANA	542	0	88	55	18	246	31	104	0
85 U TEX GALVESTON MED BRAN	537	0	0	0	0	537	0	0	0
86 BROWN UNIVERSITY	536	192	68	54	0	150	62	10	0
87 HAHNEMANN MED COL & HOSP	511	0	0	0	0	511	0	0	0
88 MED COLLEGE OF WISCONSIN	503	0	0	0	0	503	0	0	0
89 THOM JEFFERSON UNIV	503	0	0	0	0	503	0	0	0
90 RUTGERS THE STATE UNIV	497I	41I	118I	23I	36I	239I	31I	9I	0I
TOTAL 1ST 90 INSTS.	171,862	13,535	17,308	7,463	1,423	125,823	2,002	1,406	2,902
91 TULANE UNIVERSITY	483	37	14	0	10	406	16	0	0
92 UNIV OF HAWAII-MANOA	472	0	0	0	0	154	0	318	0
93 BRANDEIS UNIVERSITY	461	C	145	0	0	283	25	8	0
94 GEORGETOWN UNIVERSITY	446	0	73	0	0	358	0	1	14
95 UNION COLLEGE	440I	55I	57I	14I	6I	300I	3I	3I	2I
96 UNIVERSITY OF OREGON	434	0	88	126	0	155	3	8	54
97 GEORGE WASHINGTON UNIV	432	62	5	1	23	291	8	2	40
98 UNIVERSITY OF NOTRE DAME	429	104	286	0	0	38	0	1	0
99 UNIV OKLAHOMA	427	25	137	0	0	265	0	0	0
100 UNIV OF MD BALT PROF SCH	426	0	0	0	0	424	0	2	0
TOTAL 1ST 100 INSTS.	176,312	13,818	18,113	7,604	1,462	128,497	2,057	1,749	3,012
TOTAL ALL OTHER INSTS.	19,184	3,459	3,781	1,713	420	8,871	331	338	271

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES; THOSE FOLLOWED BY "I" ARE IMPUTATIONS; AND THOSE FOLLOWED BY "C" ARE CONFIDENTIAL.

SOURCE: NATIONAL SCIENCE FOUNDATION.

University-Administered Federally Funded Research and Development Centers

101

DEPARTMENT OF DEFENSE

Department of the Navy
- Applied Physics Laboratory (Johns Hopkins University).
- Applied Research Laboratory (Pennsylvania State University).
- Center for Naval Analyses (University of Rochester).

Department of the Air Force
- Lincoln Laboratory (Massachusetts Institute of Technology).

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

- Ames Laboratory (Iowa State University of Science and Technology).
- Argonne National Laboratory (University of Chicago and Argonne Universities Association).
- Brookhaven National Laboratory (Associated Universities, Inc.).
- Lawrence Radiation Laboratory, Berkeley and Livermore (University of California).
- Los Alamos Scientific Laboratory (University of California).
- Fermi National Accelerator Laboratory (Universities Research Association).
- Oak Ridge Associated Universities
- Plasma Physics Laboratory (Princeton University).
- Stanford Linear Accelerator Center (Stanford University).

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

- Jet Propulsion Laboratory (California Institute of Technology).
- Space Radiation Effects Laboratory (College of William and Mary).

NATIONAL SCIENCE FOUNDATION

- Cerro-Tololo Inter-American Observatory (Association of Universities for Research in Astronomy, Inc.).
- National Astronomy and Ionosphere Center (Cornell University).
- Kitt Peak National Observatory (Association of Universities for Research in Astronomy, Inc.).
- National Center for Atmospheric Research (University Corporation for Atmospheric Research).
- National Radio Astronomy Observatory (Associated Universities, Inc.).

TABLE B-49. R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS, BY CHARACTER OF WORK AND FIELD OF SCIENCE: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
TOTAL	629,207	629,502	718,930	736,847	763,563	816,923	865,098	986,736	1,146,712	1,383,814
CHARACTER OF WORK:										
BASIC RESEARCH	191,027	226,547	275,595	268,732	250,167	296,492	285,082	309,195	358,811	402,168
APPLIED RESEARCH	201,800	207,012	231,207	215,587	225,452	226,376	217,056	263,960	327,149	464,519
DEVELOPMENT	236,380	195,943	212,128	252,528	287,944	294,055	362,960	413,581	460,752	517,127
FIELD OF SCIENCE:										
ENGINEERING	154,704	150,522	178,945	189,060	198,070	251,539	259,080	275,682	299,683	379,132
PHYSICAL SCIENCES	362,352	368,485	410,362	428,189	431,864	425,107	455,418	523,160	622,887	738,090
ASTRONOMY	24,599	20,114	27,330	19,765	28,473	28,055	29,944	31,153	32,452	41,500
CHEMISTRY	59,458	51,941	61,718	71,229	75,395	73,114	64,920	69,658	96,268	113,199
PHYSICS	264,632	285,306	306,294	317,549	309,266	318,002	268,187	322,464	376,632	446,763
OTHER, NEC	13,663	11,124	15,020	19,646	18,730	5,936	92,367	99,885	117,535	136,628
ENVIRONMENTAL SCIENCES	28,310	31,173	27,875	26,970	37,186	40,647	47,864	63,175	77,476	100,981
MATHEMATICAL SCIENCES	39,850	40,019	37,147	38,213	41,738	53,178	54,339	62,416	71,641	78,584
MATHEMATICS	NA	NA	NA	NA	NA	14,744	16,002	17,715	22,063	15,358
COMPUTER SCIENCES	NA	NA	NA	NA	NA	38,434	38,337	44,701	49,578	63,226
LIFE SCIENCES	37,504	32,136	32,602	34,176	36,346	33,964	34,367	42,284	50,198	57,949
BIOLOGICAL SCIENCES	28,528	25,150	26,352	26,804	29,204	24,379	26,211	31,661	38,253	43,923
AGRICULTURAL SCIENCES	1/	1/	1/	1/	1/	1/	0	0	0	0
MEDICAL SCIENCES	8,976	6,986	5,634	6,753	3,707	3,312	3,877	4,963	5,081	4,761
OTHER, NEC	NA	NA	616	619	3,435	6,273	4,279	5,660	6,864	9,265
PSYCHOLOGY	4,776	4,195	5,661	1,506	1,447	898	850	306	92	87
SOCIAL SCIENCES	1,522	2,815	8,945	5,059	8,686	169	330	795	1,288	3,301
ECONOMICS	NA	NA	149	20	NA	0	14	795	1,277	3,280
POLITICAL SCIENCE	NA	NA	336	220	91	0	0	0	0	0
SOCIOLOGY	NA	NA	604	102	55	169	316	0	0	0
OTHER, NEC	1,522	2,815	7,856	4,717	8,540	0	0	0	11	21
OTHER SCIENCES, NEC	189	157	17,393	13,674	8,226	11,421	12,850	18,918	23,447	25,690

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN BIOLOGICAL SCIENCES.
NA - DATA NOT AVAILABLE.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-50. FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS, BY CHARACTER OF WORK AND FIELD OF SCIENCE: FISCAL YEARS 1964-77

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1964	1966	1968	1970	1972	1973	1974	1975	1976	1977
TOTAL	629,166	629,409	715,346	734,131	758,331	812,854	861,716	982,547	1,139,983	1,377,114
CHARACTER OF WORK:										
BASIC RESEARCH	190,986	226,454	273,399	267,084	247,977	294,504	283,260	308,215	357,644	401,345
APPLIED RESEARCH	201,800	207,012	230,275	214,925	223,924	225,489	216,442	262,710	324,302	461,421
DEVELOPMENT	236,380	195,943	211,672	252,122	286,430	292,861	362,014	411,622	458,037	514,348
FIELD OF SCIENCE:										
ENGINEERING	154,704	150,522	178,651	188,712	197,099	250,672	258,888	275,252	298,382	377,793
PHYSICAL SCIENCES	362,330	368,408	409,308	427,879	430,328	423,037	453,899	520,940	619,202	734,634
ASTRONOMY	24,385	19,929	26,485	19,759	27,540	27,728	29,941	31,153	32,452	41,500
CHEMISTRY	59,458	51,941	61,689	71,206	75,305	72,843	64,787	69,197	95,835	112,773
PHYSICS	264,610	285,229	306,114	317,268	308,753	316,627	267,315	320,877	374,921	444,645
OTHER, NEC	13,877	11,309	15,020	19,646	18,730	5,839	91,856	99,713	115,994	135,716
ENVIRONMENTAL SCIENCES	28,310	31,173	27,850	26,923	36,811	40,017	46,814	62,219	76,216	99,525
MATHEMATICAL SCIENCES	39,840	40,003	36,669	37,554	41,599	52,957	54,230	62,268	71,541	78,479
MATHEMATICS	NA	NA	NA	NA	NA	14,616	15,895	17,627	21,971	15,262
COMPUTER SCIENCES	NA	NA	NA	NA	NA	38,341	38,335	44,642	49,570	63,217
LIFE SCIENCES	37,495	32,136	32,583	34,010	35,861	33,685	34,009	41,863	49,842	57,641
BIOLOGICAL SCIENCES	28,519	25,150	26,333	26,671	29,169	24,202	26,037	31,473	38,070	43,795
AGRICULTURAL SCIENCES	1/	1/	1/	1/	1/	1/	0	0	0	0
MEDICAL SCIENCES	8,976	6,986	5,634	6,720	3,257	3,219	3,693	4,885	5,072	4,753
OTHER, NEC	NA	NA	616	619	3,435	6,264	4,279	5,505	6,700	9,093
PSYCHOLOGY	4,776	4,195	5,611	1,486	1,426	896	848	304	92	87
SOCIAL SCIENCES	1,522	2,815	7,335	4,258	6,983	169	330	795	1,277	3,280
ECONOMICS	NA	NA	138	20	NA	0	14	795	1,277	3,280
POLITICAL SCIENCE	NA	NA	319	201	76	0	0	0	0	0
SOCIOLOGY	NA	NA	537	91	46	169	316	0	0	0
OTHER, NEC	1,522	2,815	6,341	3,946	6,861	0	0	0	0	0
OTHER SCIENCES, NEC	189	157	17,335	13,309	8,224	11,421	12,698	18,906	23,431	25,675

1/ NOT SEPARATELY AVAILABLE, INCLUDED IN BIOLOGICAL SCIENCES.
NA - DATA NOT AVAILABLE.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-51. R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY CHARACTER OF WORK: FISCAL YEARS 1953-77

(DOLLARS IN MILLIONS)

YEAR	TOTAL	BASIC RESEARCH		APPLIED RESEARCH		DEVELOPMENT	
		AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL
1953	121	33	27.3%	44	36.4%	44	36.4%
1954	141	39	27.7	51	36.2	51	36.2
1955	180	49	27.2	65	36.1	66	36.7
1956	194	51	26.3	71	36.6	72	37.1
1957	240	65	27.1	86	35.8	89	37.1
1958	293	78	26.6	102	34.8	113	38.6
1959	338	92	27.2	119	35.2	127	37.6
1960	360	97	26.9	122	33.9	141	39.2
1961	410	115	28.0	135	32.9	160	39.0
1962	470	136	28.9	155	33.0	179	38.1
1963	530	159	30.0	170	32.1	201	37.9
1964	629	191	30.4	202	32.1	236	37.5
1965	629	208	33.1	204	32.4	217	34.5
1966	630	227	36.0	207	32.9	196	31.1
1967	673	250	37.1	219	32.5	204	30.3
1968	719	276	38.4	231	32.1	212	29.5
1969	725	275	37.9	210	29.0	240	33.1
1970	737	269	36.5	216	29.3	252	34.2
1971	716	260	36.3	210	29.3	246	34.4
1972	763	250	32.8	225	29.5	288	37.7
1973	817	296	36.2	226	27.7	294	36.0
1974	865	285	32.9	217	25.1	363	42.0
1975	987	309	31.3	264	26.7	414	41.9
1976	1,147	359	31.3	327	28.5	461	40.2
1977	1,384	402	29.0	465	33.6	517	37.4

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-52. SELECTED FINANCIAL CHARACTERISTICS OF SCIENTIFIC ACTIVITIES IN UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY AGENCY: FISCAL YEARS 1975-77

(DOLLARS IN MILLIONS)

FEDERAL AGENCY	NUMBER OF FFRDC'S	RESEARCH AND DEVELOPMENT EXPENDITURES														
		CURRENT EXPENDITURES												CAPITAL EXPENDITURES		
		TOTAL			BASIC RESEARCH			APPLIED RESEARCH			DEVELOPMENT					
	1977	1977 1/	1976 2/	1975 3/	1977	1976	1975	1977	1976	1975	1977	1976	1975	1977	1976	1975
TOTAL	21	1,384	1,147	987	402	359	309	465	327	264	517	461	414	188	166	148
SPONSORING FEDERAL AGENCY:																
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION	10	975	788	656	318	287	241	365	253	199	292	247	216	148	121	104
DEPARTMENT OF DEFENSE	4	180	178	163	3	3	3	49	46	42	128	130	119	5	5	5
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2	175	129	121	27	17	19	50	28	23	97	83	79	15	16	17
NATIONAL SCIENCE FOUNDATION	5	54	51	46	54	51	46	0	0	0	0	0	0	19	24	22

1/ INCLUDED 6.7 MILLION IN NON-FEDERAL FUNDS.
2/ INCLUDED 4.0 MILLION IN NON-FEDERAL FUNDS.
3/ INCLUDED 3.4 MILLION IN NON-FEDERAL FUNDS.

NOTE: DETAIL MAY NOT ADD TO TOTALS DUE TO ROUNDING.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-53. R&D EXPENDITURES BY FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY FIELD OF SCIENCE: FISCAL YEAR 1977

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
UNITED STATES TOTAL	1,383,814	379,132	738,090	100,981	78,584	57,949	87	3,301	25,690
1 LAWRENCE LIVERMORE LAB	256,012	9,894	216,838	14,553	447	3,504	0	0	10,376
2 LOS ALAMOS SCIENTIFIC LAB	247,000	89,875	121,678	11,812	8,641	12,306	0	0	2,688
3 JET PROPULSION LABORATORY	173,879	80,993	33,750	5,547	51,086	2,503	0	0	0
4 ARGONNE NATL LABORATORY	158,080	64,767	64,156	16,402	1,656	11,099	0	0	0
5 BROOKHAVEN NAT'L LAB	96,384	15,736	56,313	6,381	1,232	13,188	0	935	2,599
6 LINCOLN LABORATORY	87,625	60,023	16,211	0	11,304	0	87	0	0
7 APPLIED PHYSICS LAB	70,501E	40,264E	15,489E	10,621E	2,724E	1,403E	0	0	0
8 LAWRENCE BERKELEY LAB	67,134	3,057	39,539	11,900	1,381	11,257	0	0	0
9 FERMI NAT ACCELERATOR LAB	51,360	0	51,360	0	0	0	0	0	0
10 STFRD LINEAR ACCELRTR CTR	45,506	0	45,506	0	0	0	0	0	0
TOTAL 1ST 10 INSTS.	1,253,481	364,609	660,840	77,216	78,471	55,660	87	935	15,663
11 PLASMA PHYSICS LABORATORY	37,372	0	37,372	0	0	0	0	0	0
12 NATL CTR ATMOSPHERIC RES	29,732	0	7,163	22,569	0	0	0	0	0
13 APPLIED RES LABORATORY	11,460	11,460	0	0	0	0	0	0	0
14 AMES LABORATORY	10,639	3,063	7,463	0	113	0	0	382	10,012
15 CENTER FOR NAVAL ANALYSES	10,452	0	0	0	0	58	0	0	0
16 KITT PEAK NAT'L OBSERVTRY	8,595	0	8,595	0	0	0	0	0	0
17 NAT'L RADIO ASTRONOMY OBS	7,786	0	7,786	0	0	0	0	0	0
18 OAK RIDGE ASSOCIATED UNIV	5,140	0	925	0	0	2,231	0	1,984	0
19 NAT'L ASTRON & IONOS CTR	4,409	0	3,213	1,196	0	0	0	0	0
20 CERRO TOLOLO INTER-AM OBS	3,922	0	3,922	0	0	0	0	0	0
TOTAL 1ST 20 INSTS.	1,382,988	379,132	737,279	100,981	78,584	57,949	87	3,301	25,675
21 SPACE RADIATION EFFTS LAB	826	0	811	0	0	0	0	0	15
TOTAL 1ST 21 INSTS.	1,383,814	379,132	738,090	100,981	78,584	57,949	87	3,301	25,690

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES.

SOURCE: NATIONAL SCIENCE FOUNDATION.

TABLE B-54. R&D EXPENDITURES AT FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS: FISCAL YEARS 1974-77

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING (1977)	TOTAL				FEDERALLY FINANCED			
	1977	1976	1975	1974	1977	1976	1975	1974
UNITED STATES TOTAL	1,383,814	1,146,712	986,736	865,098	1,377,114	1,139,983	982,547	861,716
1 LAWRENCE LIVERMORE LAB	256,012	198,556	172,058	147,319	254,557	196,884	171,938	147,311
2 LOS ALAMOS SCIENTIFIC LAB	247,000	191,632	162,078	130,905	247,000	191,632	162,078	130,905
3 JET PROPULSION LABORATORY	173,879	128,280	120,034	112,737	173,879	128,280	120,034	112,737
4 ARGONNE NATL LABORATORY	158,080	133,670	115,783	93,545	156,781	132,366	115,268	93,188
5 BROOKHAVEN NAT'L LAB	96,384	83,675	66,855	56,070	96,384	83,675	66,645	55,961
6 LINCOLN LABORATORY	87,625	92,054	81,894	78,636	87,625	92,054	81,894	78,636
7 APPLIED PHYSICS LAB	70,501E	67,144E	63,344	62,436	68,088E	64,846E	61,176	60,412
8 LAWRENCE BERKELEY LAB	67,134	46,675	40,370	36,498	66,037	45,716	39,782	36,466
9 FERMI NAT ACCELERATOR LAB	51,360	53,685	35,800	28,900	51,360	53,685	35,800	28,900
10 STFRD LINEAR ACCELRTR CTR	45,506	39,911	30,997	27,592	45,506	39,911	30,997	27,592
TOTAL 1ST 10 INSTS.	1,253,481	1,035,285	889,253	774,638	1,247,217	1,029,049	885,612	772,108
11 PLASMA PHYSICS LABORATORY	37,372	28,027	21,396	16,293	37,295	27,965	21,228	15,864
12 NATL CTR ATMOSPHERIC RES	29,732	28,639	22,957	23,848	29,722	28,604	22,932	23,796
13 APPLIED RES LABORATORY	11,460	8,737	8,063	8,048	11,384	8,637	8,013	8,023
14 AMES LABORATORY	10,639	8,759	7,688	6,280	10,639	8,759	7,688	6,280
15 CENTER FOR NAVAL ANALYSES	10,452	10,510	10,094	9,698	10,431	10,499	10,068	9,640
16 KITT PEAK NAT'L OBSERVTRY	8,595	8,515	10,235	8,867	8,595	8,515	10,235	8,867
17 NAT'L RADIO ASTRONOMY OBS	7,786	7,111	6,435	6,275	7,786	7,111	6,435	6,275
18 OAK RIDGE ASSOCIATED UNIV	5,140	3,460	3,013	3,164	5,015	3,311	2,915	3,045
19 NAT'L ASTRON & IONOS CTR	4,409	3,562	3,386	2,924	4,409	3,562	3,386	2,924
20 CERRO TOLOLO INTER-AM OBS	3,922	3,358	3,373	4,022	3,922	3,358	3,373	4,022
TOTAL 1ST 20 INSTS.	1,382,988	1,145,963	985,893	864,057	1,376,415	1,139,370	981,885	860,844
21 SPACE RADIATION EFFTS LAB	826	749	681	457	699	613	500	288
TOTAL 1ST 21 INSTS.	1,383,814	1,146,712	986,574	864,514	1,377,114	1,139,983	982,385	861,132
TOTAL ALL OTHER INSTS.	0	0	162	584	0	0	162	584

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATES.

SOURCE: NATIONAL SCIENCE FOUNDATION.

APPENDIX C

Reproduction of Survey Form

Page

Universities and Colleges (includes aggregate data from 539 institutions) 100

University-administered federally funded research and development centers (FFRDC's) (includes data from 21 centers) 102

APPENDIX C.

NSF FORM 411 (Oct. 1977)

FORM APPROVED
OMB No. 99-R0279

REPRODUCTION OF SURVEY FORM
NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

SURVEY OF SCIENTIFIC AND ENGINEERING EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1977

(Current and Capital Expenditures for Research, Development, and Instruction in the Science and Engineering)

Organizations are requested to complete and return this form to:

NATIONAL SCIENCE FOUNDATION
1800 G Street, N.W.
Washington, D.C. 20550
Attn: UNISG

This form should be returned by November 30, 1977. Your cooperation in returning the survey questionnaire promptly is very important.

Financial data are requested for your institution's 1977 fiscal year.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. All information you provide will be used for statistical purposes only. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of $25,342 should be rounded to the nearest thousand dollars and reported as $25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Please correct if name or address has changed

(Includes aggregate data from 539 universities and colleges but excludes 21 university-administered FFRDC's)

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Also include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical programs of your medical schools. Exclude data for federally funded research and development centers (FFRDC's). A separate questionnaire is included in this package if your institution administers an FFRDC. **If you have any questions please contact Jim Hoehn (202-634-4674).**

Please note in space below:
(1) Any suggestions to improve the design of the survey questionnaire, (2) any suggestions to improve the instructions, or (3) any comments on significant change in R&D in your institution.

(Attach additional sheets, if necessary.)

PLEASE TYPE OR PRINT NAME OF PERSON SUBMITTING THIS FORM	TITLE	AREA CODE	EXCH	NO.	EXT
NAME OF PERSON WHO PREPARED THIS SUBMISSION (If different from above)	TITLE	AREA CODE	EXCH	NO.	EXT
Please check and correct if necessary the name and address of your institution shown on the mailing label.		DATE			

107

ITEM 1. CURRENT EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT (R&D) IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS AND TYPE OF ACTIVITY, FY 1977 (Include indirect costs)

ITEM 1. INSTRUCTIONS

Separately budgeted research and development includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. Include expenditures from both the unrestricted and restricted current fund accounts. **Exclude** training grants, public service grants, demonstration projects, etc.

Include in lines a through e and line g restricted funds which include those monies restricted by the sponsor as to the specific operating purpose for which they could be expended. The determination of restricted or unrestricted (institutional) funds reflects the ability of your institution to change the purpose for which the funds are expended without further authorization from the source of the monies. The restricted funds category of Federal, State, or local governments includes all R&D expenditures from funds received through appropriations, grants, or contracts from these sources and restricted by them as to use. The funding source is determined by the organization (e.g., State government, foundation, etc.) that designates the money for R&D even if your organization determines which projects are to be funded. Include indirect costs reimbursed or reimbursable from outside sources.

Under a. Federal Government include grants and contracts earmarked for research and development by all agencies of the Federal Government.

Under b. State government include funds designated for R&D by the State government and its agencies. Include here State funds supporting research and development at agricultural experiment stations.

Under c. local government include funds designated for R&D by county, municipal, or other local governments and their agencies.

Under d. Foundations and voluntary health agencies include grants specified for R&D. Funds from foundations which are affiliated with or grant solely to your institution should be included under **f. Institutional funds.** Funds specifically designated for R&D and derived from a health agency that is a unit of a State or local government should be reported under **State or local government.**

Under e. Industry include all grants and contracts allocated to R&D by profitmaking organizations, whether engaged in production, distribution, research, service, or other activities. Do not include grants and contracts from nonprofit foundations financed by industry, which should be reported under **Foundations.**

Under f. Institutional funds include any funds which the institution was free to designate for R&D (include indirect costs). These funds may include (1) Unrestricted or general-purpose State or local government appropriations; (2) general-purpose grants from industry, foundations, or other outside sources; (3) tuition and fees; (4) endowment income; and (5) the unreimbursed indirect costs incurred in association with R&D projects financed by outside organizations (e.g., mandatory Federal cost sharing on grants, etc.).

If your institution now separately budgets what was previously classified as departmental research, these data should be included in line f. If your accounts do not separately identify departmental research expenditures but include them as part of the instruction and departmental research account, these data should be reported in item 3 in accordance with the instructions.

Please **exclude** from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

Source of funds		(1) Total R&D expenditures (Thousands of dollars)	(2) Basic research (Percent of column 1)	(3) Applied research (Percent of column 1)	(4) Development (Percent of column 1)
a. Federal Government	1110	$2,716,767	73.3 %	22.3 %	4.4 %
b. State government	1120	362,255	**Basic research** is directed toward an increase of knowledge; it is research where the primary aim of the *investigator* is a fuller knowledge or understanding of the subject under study rather than a practical application thereof.	**Applied research** is directed toward the practical application of knowledge. The definition of applied research differs from basic research chiefly in terms of the objectives of the *investigator*.	**Development** is the systematic use of knowledge directed toward the design and production of useful prototypes, materials, devices, systems, methods, or processes. It does *not* include quality control or routine product testing.
c. Local government	1130	13,400			
d. Private foundations and voluntary health agencies	1140	191,737			
e. Industry	1150	139,149			
f. Institutional funds	1160	517,681			
g. All other outside sources	1170	123,231			
h. Total (sum of a through g)	1100	$4,064,220	68.6 %	26.3 %	5.1 %

Total R&D expenditures reported in line 1100 column (1) and line 1400 column (1) should be the same.
Federally financed R&D expenditures reported in line 1110 column (1) and line 1400 column (2) should be the same.

108

ITEM 2. TOTAL AND FEDERALLY FINANCED EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE, FY 1977 (Include indirect costs)

Field of science	Illustrative disciplines		Thousands of dollars (1) Total	Thousands of dollars (2) Federal
a. ENGINEERING (TOTAL)	Aeronautical, agricultural, chemical, civil, electrical, industrial, mechanical, metallurgical, mining, nuclear, petroleum, bio- and biomedical, energy, textile, architecture	1410	$ 498,606	$ 336,211
b. PHYSICAL SCIENCES (TOTAL)		1420	426,689	340,724
(1) Astronomy	Astrophysics, optical and radio, x-ray, gamma-ray, neutrino	1421	32,336	23,133
(2) Chemistry	Inorganic, organo-metallic, organic, physical, analytical, pharmaceutical, polymer science (exclude biochemistry)	1422	163,522	124,323
(3) Physics	Acoustics, atomic and molecular, condensed matter, elementary particles, nuclear structure, optics, plasma	1423	200,908	171,118
(4) Other	Used for multidisciplinary projects within physical sciences and for disciplines not requested separately	1424	29,923	22,150
c. ENVIRONMENTAL SCIENCES (TOTAL)	ATMOSPHERIC SCIENCES: Aeronomy, solar weather modification, meteorology, extra-terrestrial atmospheres GEOLOGICAL SCIENCES: Engineering geophysics, geology, geodesy, geomagnetism, hydrology, geochemistry, palaeomagnetism, paleontology, physical geography, cartography, seismology, soil sciences OCEANOGRAPHY: Chemical, geological, physical, marine geophysics, marine biology, biological oceanography	1430	317,035	236,830
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)		1440	106,329	77,378
(1) Mathematics	Algebra, analysis, applied mathematics, foundations and logic, geometry, numerical analysis, statistics, topology	1441	51,183	39,900
(2) Computer sciences	Design, development, and application of computer capabilities to data storage and manipulation, information science	1442	55,146	37,478
e. LIFE SCIENCES (TOTAL)		1450	2,256,782	1,466,629
(1) Biological sciences	Anatomy, biochemistry, biophysics, biogeography, ecology, embryology, entomology, genetics, immunology, microbiology, nutrition, parasitology, pathology, pharmacology, physical anthropology, physiology, botony, zoology	1451	769,097	572,338
(2) Agricultural	Agricultural chemistry agronomy, animal science, conservation, dairy science, plant science, range science, wildlife	1452	464,428	134,236
(3) Medical	Anesthesiology, cardiology, endocrinology, gastroenterology, hematology, neurology, obstetrics, ophthamology, preventive medicine and community health, psychiatry, radiology, surgery, veterinary medicine, dentistry, pharmacy	1453	948,273	706,147
(4) Other	Used for multidisciplinary projects within life sciences	1454	74,984	53,908
f. PSYCHOLOGY (TOTAL)	Animal behavior, clinical, educational, experimental, human development and personality, social	1460	83,014	62,313
g. SOCIAL SCIENCES (TOTAL)		1470	269,481	139,285
(1) Economics	Econometrics, international, industrial, labor, agricultural, public finance and fiscal policy	1471	70,206	31,021
(2) Political science	Regional studies, comparative government, international relations, legal systems, political theory, public administration	1472	32,496	14,929
(3) Sociology	Comparative and historical, complex organizations, culture and social structure, demography, group interactions, social problems and welfare, theory	1473	61,258	37,289
(4) Other	History of science, cultural anthropology, linguistics, socio-economic geography, research in education	1474	105,521	56,046
h. OTHER SCIENCES, n.e.c. (TOTAL)*	To be used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible	1480	106,284	57,397
i. TOTAL (SUM of a through h) Check to insure that column totals are identical with data reported in item 1.		1400	4,064,220	2,716,767

*PLEASE EXCLUDE FROM YOUR RESPONSE ANY R&D EXPENDITURES IN THE FIELDS OF EDUCATION, LAW, HUMANITIES, MUSIC, THE ARTS, PHYSICAL EDUCATION, LIBRARY SCIENCE, AND ALL OTHER NONSCIENCE FIELDS.

ITEM 3. CURRENT EXPENDITURES FOR INSTRUCTION AND DEPARTMENTAL RESEARCH IN THE SCIENCES AND ENGINEERING, BY FIELD OF SCIENCE, FY 1977 (Direct expenditures only)

COMPLETE ITEM 3 IF YOUR INSTITUTION GRANTS A DOCTORATE OR MASTER'S DEGREE IN EITHER THE SCIENCES OR ENGINEERING

ITEM 3. INSTRUCTIONS

Include the salaries of department heads, faculty members, secretaries and technicians; office and laboratory supplies; and expenditures for degree credit instructional programs in science and engineering subjects. The time spent in supervising the thesis work of graduate students should be reported as an expenditure for instruction, not for departmental research. Departmental research (nonsponsored research) is "personal" or "faculty" research supported by General Funds of the department as a specifically assigned, departmentally planned, or mutually understood part of the faculty member's total activity. If departmental research expenditures are now separately budgeted at your institution, they should be reported in items 1 & 2 rather than in item 3.

Does your institution separately budget departmental research? YES_____ beginning in 19___ NO _____

If YES, are the expenditures for this item reported in items 1 & 2? YES_____ NO _____

Field of science		Total instruction and departmental research (Thousands of dollars) (1)	Departmental research as a percent of col. 1 (No decimals) (2)
a. Engineering	1510	$ 531,042	10 %
b. Physical sciences	1520	474,812	11 %
c. Environmental sciences	1530	144,691	10 %
d. Mathematical and computer sciences	1540	341,670	9 %
e. Life sciences	1550	2,194,013	11 %
f. Psychology	1560	231,414	9 %
g. Social sciences	1570	963,231	9 %
h. Other sciences, n.e.c.	1580	209,561	6 %
i. Total (sum of a through h)	1590	$ 5,090,435	

ITEM 4. CAPITAL EXPENDITURES FOR SCIENTIFIC AND ENGINEERING FACILITIES AND EQUIPMENT FOR RESEARCH, DEVELOPMENT, AND INSTRUCTION, BY FIELD OF SCIENCE, FY 1977

ITEM 4. INSTRUCTIONS

Report funds for facilities which were in process or completed during FY 1977. Expenditures for administration buildings, steam plants, residence halls, and other such facilities should be excluded unless utilized principally for research, development, or instruction in engineering or in the sciences. Land costs should be excluded. Exclude small equipment items in your current fund account costing approximately $200 to $500 or less, as determined by institutional policy.

Facilities and equipment expenditures include the following: (a) fixed equipment such as built-in equipment and furnishings; (b) movable scientific equipment such as oscilloscopes, pulse-height analyzers; (c) movable furnishings such as desks; (d) architect's fees, site work, extension of utilities, and the building costs of service functions such as integral cafeterias and bookstores of a facility; (e) facilities constructed to house separate components such as medical schools and teaching hospitals; and (f) special separate facilities used to house scientific apparatus such as accelerators, oceanographic vessels, and computers.

Field of science		Thousands of dollars: Total (1)	Federal Government (2)	All other sources (3)
a. Engineering	1710	$ 88,233	$ 17,277	$ 70,956
b. Physical sciences	1720	65,239	21,894	43,345
c. Environmental sciences	1730	28,393	9,317	19,076
d. Mathematical and computer sciences	1740	23,592	1,882	21,710
e. Life sciences	1750	644,779	137,368	507,411
f. Psychology	1760	12,737	2,388	10,349
g. Social sciences	1770	30,997	2,087	28,910
h. Other sciences, n.e.c.	1780	66,460	3,283	63,177
i. Total (sum of a through h)	1700	$ 960,430	$ 195,496	$ 764,934

109

110

APPENDIX C.

NSF FORM 411 (Oct. 1977)

FORM APPROVED
OMB No. 99-R0279

REPRODUCTION OF SURVEY FORM
NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

SURVEY OF SCIENTIFIC AND ENGINEERING EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1977

(Current and Capital Expenditures for Research, Development, and Instruction in the Sciences and Engineering)

Organizations are requested to complete and return this form to:

NATIONAL SCIENCE FOUNDATION
1800 G Street, N.W.
Washington, D.C. 20550
Attn: UNISG

This form should be returned by November 30, 1977. Your cooperation in returning the survey questionnaire promptly is very important.

Financial data are requested for your institution's 1977 fiscal year.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. All information you provide will be used for statistical purposes only. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of $25,342 should be rounded to the nearest thousand dollars and reported as $25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Please correct if name or address has changed

(Aggregate data from 21 university-administered FFRDC's)

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Also include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical programs of your medical schools. Exclude data for federally funded research and development centers (FFRDC's). A separate questionnaire is included in this package if your institution administers an FFRDC. If you have any questions please contact Jim Hoehn (202-634-4674).

Please note in space below:
(1) Any suggestions to improve the design of the survey questionnaire, (2) any suggestions to improve the instructions, or (3) any comments on significant change in R&D in your institution.

(Attach additional sheets, if necessary.)

PLEASE TYPE OR PRINT NAME OF PERSON SUBMITTING THIS FORM	TITLE	AREA CODE	EXCH	NO.	EXT

NAME OF PERSON WHO PREPARED THIS SUBMISSION (If different from above)	TITLE	AREA CODE	EXCH	NO.	EXT

Please check and correct if necessary the name and address of your institution shown on the mailing label. DATE

111

ITEM 1. CURRENT EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT (R&D) IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS AND TYPE OF ACTIVITY, FY 1977 (Include indirect costs)

ITEM 1. INSTRUCTIONS

Separately budgeted research and development includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. Include expenditures from both the unrestricted and restricted current fund accounts. **Exclude** training grants, public service grants, demonstration projects, etc.

Include in lines a through e and line g restricted funds which include those monies restricted by the sponsor as to the specific operating purpose for which they could be expended. The determination of restricted or unrestricted (institutional) funds reflects the ability of your institution to change the purpose for which the funds are expended without further authorization from the source of the monies. The restricted funds category of Federal, State, or local governments includes all R&D expenditures from funds received through appropriations, grants, or contracts from these sources and restricted by them as to use. The funding source is determined by the organization (e.g., State government, foundation, etc.) that designates the money for R&D even if your organization determines which projects are to be funded. Include indirect costs reimbursed or reimbursable from outside sources.

Under a. Federal Government include grants and contracts earmarked for research and development by all agencies of the Federal Government.

Under b. State government include funds designated for R&D by the State government and its agencies. Include here State funds supporting research and development at agricultural experiment stations.

Under c. local government include funds designated for R&D by county, municipal, or other local governments and their agencies.

Under d. Foundations and voluntary health agencies include grants specified for R&D. Funds from foundations which are affiliated with or grant solely to your institution should be included under **f. Institutional funds.** Funds specifically designated for R&D and derived from a health agency that is a unit of a State or local government should be reported under **State or local government.**

Under e. Industry include all grants and contracts allocated to R&D by profitmaking organizations, whether engaged in production, distribution, research, service, or other activities. Do not include grants and contracts from nonprofit foundations financed by industry, which should be reported under **Foundations.**

Under f. Institutional funds include any funds which the institution was free to designate for R&D (include indirect costs). These funds may include (1) Unrestricted or general-purpose State or local government appropriations; (2) general-purpose grants from industry, foundations, or other outside sources; (3) tuition and fees; (4) endowment income; and (5) the unreimbursed indirect costs incurred in association with R&D projects financed by outside organizations (e.g., mandatory Federal cost sharing on grants, etc.).

If your institution now separately budgets what was previously classified as departmental research, these data should be included in line f. If your accounts do not separately identify departmental research expenditures but include them as part of the instruction and departmental research account, these data should be reported in item 3 in accordance with the instructions.

Please exclude from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

Source of funds		(1) Total R&D expenditures (Thousands of dollars)	(2) Basic research (Percent of column 1)	(3) Applied research (Percent of column 1)	(4) Development (Percent of column 1)
a. Federal Government	1110	$ 1,377,114	29.1 %	33.5 %	37.4 %
b. State government	1120	1,781	**Basic research** is directed toward an increase of knowledge; it is research where the primary aim of the *investigator* is a fuller knowledge or understanding of the subject under study rather than a practical application thereof.	**Applied research** is directed toward the practical application of knowledge. The definition of applied research differs from basic research chiefly in terms of the objectives of the *investigator*.	**Development** is the systematic use of knowledge directed toward the design and production of useful prototypes, materials, devices, systems, methods, or processes. It does *not* include quality control or routine product testing.
c. Local government	1130	626			
d. Private foundations and voluntary health agencies	1140	721			
e. Industry	1150	401			
f. Institutional funds	1160	1,368			
g. All other outside sources	1170	1,803			
h. Total (sum of a through g)	1100	$ 1,383,814	29.1 %	33.5 %	37.4 %

Total R&D expenditures reported in line 1100 column (1) and line 1400 column (1) should be the same.
Federally financed R&D expenditures reported in line 1110 column (1) and line 1400 column (2) should be the same.

112

ITEM 2. TOTAL AND FEDERALLY FINANCED EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE, FY 1977 (Include indirect costs)

Field of science	Illustrative disciplines		Thousands of dollars (1) Total	(2) Federal
a. ENGINEERING (TOTAL)	Aeronautical, agricultural, chemical, civil, electrical, industrial, mechanical, metallurgical, mining, nuclear, petroleum, bio- and biomedical, energy, textile, architecture	1410	$ 379,132	$ 377,793
b. PHYSICAL SCIENCES (TOTAL)		1420	738,090	734,634
(1) Astronomy	Astrophysics, optical and radio, x-ray, gamma-ray, neutrino	1421	41,500	41,500
(2) Chemistry	Inorganic, organo-metallic, organic, physical, analytical, pharmaceutical, polymer science (exclude biochemistry)	1422	113,199	112,773
(3) Physics	Acoustics, atomic and molecular, condensed matter, elementary particles, nuclear structure, optics, plasma	1423	446,763	444,645
(4) Other	Used for multidisciplinary projects within physical sciences and for disciplines not requested separately	1424	136,628	135,716
c. ENVIRONMENTAL SCIENCES (TOTAL)	ATMOSPHERIC SCIENCES: Aeronomy, solar weather modification, meteorology, extra-terrestrial atmospheres GEOLOGICAL SCIENCES: Engineering geophysics, geology, geodesy, geomagnetism, hydrology, geochemistry, paleomagnetism, paleontology, physical geography, cartography, seismology, soil sciences OCEANOGRAPHY: Chemical, geological, physical, marine geophysics, marine biology, biological oceanography	1430	100,981	99,525
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)		1440	78,584	78,479
(1) Mathematics	Algebra, analysis, applied mathematics, foundations and logic, geometry, numerical analysis, statistics, topology	1441	15,358	15,262
(2) Computer sciences	Design, development, and application of computer capabilities to data storage and manipulation, information science	1442	63,226	63,217
e. LIFE SCIENCES (TOTAL)		1450	57,949	57,641
(1) Biological sciences	Anatomy, biochemistry, biophysics, biogeography, ecology, embryology, entomology, genetics, immunology, microbiology, nutrition, parasitology, pathology, pharmacology, physical anthropology, physiology, botony, zoology	1451	43,923	43,795
(2) Agricultural	Agricultural chemistry, agronomy, animal science, conservation, dairy science, plant science, range science, wildlife	1452	0	0
(3) Medical	Anesthesiology, cardiology, endocrinology, gastroenterology, hematology, neurology, obstetrics, ophthamology, preventive medicine and community health, psychistry, radiology, surgery, veterinary medicine, dentistry, pharmacy	1453	4,761	4,753
(4) Other	Used for multidisciplinary projects within life sciences	1454	9,265	9,093
f. PSYCHOLOGY (TOTAL)	Animal behavior, clinical, educational, experimental, human development and personality, social	1460	87	87
g. SOCIAL SCIENCES (TOTAL)		1470	3,301	3,280
(1) Economics	Econometrics, international, industrial, labor, agricultural, public finance and fiscal policy	1471	3,280	3,280
(2) Political science	Regional studies, comparative government, international relations, legal systems, political theory, public administration	1472	0	0
(3) Sociology	Comparative and historical, complex organizations, culture and social structure, demography, group interactions, social problems and welfare, theory	1473	0	0
(4) Other	History of science, cultural anthropology, linguistics, socio-economic geography, research in education	1474	21	0
h. OTHER SCIENCES, n.e.c. (TOTAL)*	To be used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible	1480	25,690	25,675
i. TOTAL (SUM of a through h) Check to insure that column totals are identical with data reported in item 1.		1400	1,383,814	1,377,114

*PLEASE EXCLUDE FROM YOUR RESPONSE ANY R&D EXPENDITURES IN THE FIELDS OF EDUCATION, LAW, HUMANITIES, MUSIC, THE ARTS, PHYSICAL EDUCATION, LIBRARY SCIENCE, AND ALL OTHER NONSCIENCE FIELDS.

ITEM 3. CURRENT EXPENDITURES FOR INSTRUCTION AND DEPARTMENTAL RESEARCH IN THE SCIENCES AND ENGINEERING, BY FIELD OF SCIENCE, FY 1977 (Direct expenditures only)

COMPLETE ITEM 3 IF YOUR INSTITUTION GRANTS A DOCTORATE OR MASTER'S DEGREE IN EITHER THE SCIENCES OR ENGINEERING

ITEM 3. INSTRUCTIONS

Include the salaries of department heads, faculty members, secretaries and technicians; office and laboratory supplies; and expenditures for degree credit instructional programs in science and engineering subjects. The time spent in supervising the thesis work of graduate students should be reported as an expenditure for instruction, not for departmental research. Departmental research (nonsponsored research) is "personal" or "faculty" research supported by General Funds of the department as a specifically assigned, departmentally planned, or mutually understood part of the faculty member's total activity. If departmental research expenditures are now separately budgeted at your institution, they should be reported in items 1 & 2 rather than in item 3.

Does your institution separately budget departmental research? YES_____ beginning in 19___ NO _____

If YES, are the expenditures for this item reported in items 1 & 2? YES_____ NO_____

Field of science		Total instruction and departmental research (Thousands of dollars) (1)	Departmental research as a percent of col. 1 (No decimals) (2)
a. Engineering	1510	$	%
b. Physical sciences	1520		%
c. Environmental sciences	1530		%
d. Mathematical and computer sciences	1540		%
e. Life sciences	1550		%
f. Psychology	1560		%
g. Social sciences	1570		%
h. Other sciences, n.e.c.	1580		%
i. Total (sum of a through h)	1500	$	

ITEM 4. CAPITAL EXPENDITURES FOR SCIENTIFIC AND ENGINEERING FACILITIES AND EQUIPMENT FOR RESEARCH, DEVELOPMENT, AND INSTRUCTION, BY FIELD OF SCIENCE, FY 1977

ITEM 4. INSTRUCTIONS

Report funds for facilities which were in process or completed during FY 1977. Expenditures for administration buildings, steam plants, residence halls, and other such facilities should be excluded unless utilized principally for research, development, or instruction in engineering or in the sciences. Land costs should be excluded. Exclude small equipment items in your current fund account costing approximately $200 to $500 or less, as determined by institutional policy.

Facilities and equipment expenditures include the following: (a) fixed equipment such as built-in equipment and furnishings; (b) movable scientific equipment such as oscilloscopes, pulse-height analyzers; (c) movable furnishings such as desks; (d) architect's fees, site work, extension of utilities, and the building costs of service functions such as integral cafeterias and bookstores of a facility; (e) facilities constructed to house separate components such as medical schools and teaching hospitals; and (f) spacial separate facilities used to house scientific apparatus such as accelerators, oceanographic vessels, and computers.

Field of science		Thousands of dollars: Total (1)	Federal Government (2)	All other sources (3)
a. Engineering	1710	$ 36,846	$ 36,846	$ 0
b. Physical sciences	1720	131,495	131,495	0
c. Environmental sciences	1730	7,934	7,934	0
d. Mathematical and computer sciences	1740	6,211	6,211	0
e. Life sciences	1750	4,720	4,719	1
f. Psychology	1760	0	0	0
g. Social sciences	1770	0	0	0
h. Other sciences, n.e.c.	1780	615	615	0
i. Total (sum of a through h)	1700	$ 187,821	$ 187,820	$ 1